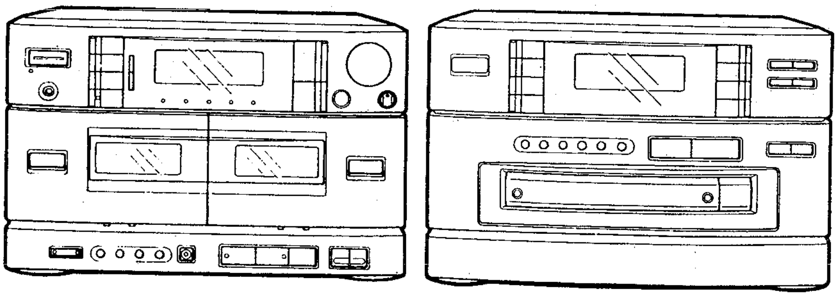
SANYO

FILE NO.

Service Manual

Mini Component System DC D50 (XE)

SANY- 02016



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129 377 01

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This Service manual is consist of "RB-D30", "DC-D50CT", "DC-D50DA".

REFERENCE No. SM580067

2016

SPECIFICATION

Note : The below mentioned specifications are mainly based on the IHF measurements standard. They can therefore not directly be compared with specifications based on the DIN standard or other standards.

CASSETTE DECK/AMPLIFIER UNIT

Cassette decks	
Track system	4-track, 2-channel stereo
Frequency response	Chrome tapes: 40 - 13,500 Hz Normal tapes : 40 - 12,500 Hz
Signal to noise ratio	60 dB(with DOLBY NR : ON)
Wow and flutter	0.14% (WRMS)
Fast forward / rewind time	Approx. 120 sec. (C-60)
Amplifier	
Output power	40 W × 2 (at 8 ohms, 0.9% distortion)
Graphic equalizer	7 band electronic
Spectrum analyzer	7 band
Inputs	PHONO : 2.5 mV / 50k ohms VIDEO : 250 mV / 50k ohms
Outputs	SUPER WOOFER OUT : 600 mV SPEAKERS : 8 ohms PHONES : 8 ohms
General	
Power requirements	AC : 230 V (115 V), 50 Hz
Power consumption	100 W
Dimensions(approx.)	270 (W) × 178 (H) × 317 (D) mm
Weight(approx.)	6.4 kg

TUNER/TIMER/CD PLAYER UNIT

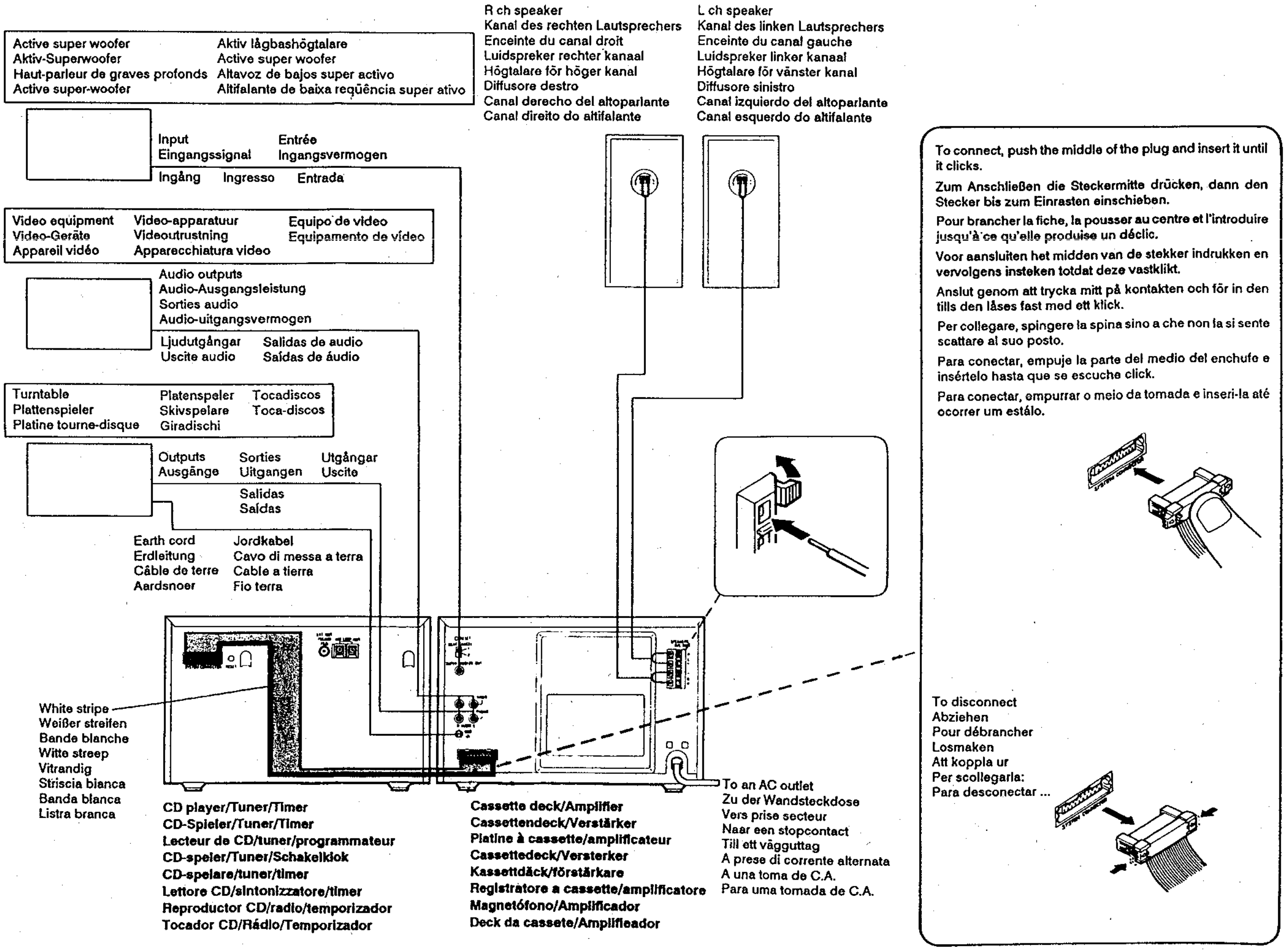
Tuner	
Reception frequency	FM : 87.5 - 108 MHz MW : 522 - 1,611 kHz LW : 144 - 290 kHz
CD player	
Channels	2-channel stereo
Sampling frequency	44.1 kHz
Pick-up	Optical 3-beam semiconductor laser
Frequency response	20 - 20,000 Hz
Wow and flutter	Below measurable limits
General	
Dimensions(approx.)	270 (W) × 178 (H) × 278 (D) mm
Weight(approx.)	2.9 kg

REMOTE CONTROLLER (RB-D30)

Power requirements	DC : 3V "R03 / AAA / UM-4" Battery × 2
Dimensions(approx.)	58 (W) × 18 (D) × 186 (H) mm

Specification subject to change without notice.

SYSTEM CONNECTION


R ch speaker
Kanal des rechten Lautsprechers
Enceinte du canal droit
Luidspreker rechter kanaal
Högtalare för höger kanal
Diffusore destro
Canal derecho del altoparlante
Canal direito do altifalante
L ch speaker
Kanal des linken Lautsprechers
Enceinte du canal gauche
Luidspreker linker kanaal
Högtalare för vänster kanal
Diffusore sinistro
Canal izquierdo del altoparlante
Canal esquerdo do altifalante
Active super woofer
Aktiv-Superwoofer
Haut-parleur de graves profonds
Active super-woofer
Aktiv lågbashögtalare
Active super woofer
Altavoz de bajos super activo
Altifalante de baixa reqûência super ativo
Input
Eingangssignal
Entrée
Ingangsvermogen
Ingång
Ingresso
Entrada
Video equipment
Video-Geräte
Appareil vidéo
Video-apparatuur
Videoutrustning
Apparecchiatura video
Equipo de video
Equipamento de vídeo
Audio outputs
Audio-Ausgangsleistung
Sorties audio
Audio-uitgangsvermogen
Ljudutgångar
Uscite audio
Salidas de audio
Saídas de áudio
Turntable
Plattenspieler
Platine tourne-disque
Platenspeler
Skivspelare
Giradischi
Tocadiscos
Toca-discos
Outputs
Ausgänge
Sorties
Uitgangen
Utgångar
Uscite
Salidas
Saídas
Earth cord
Erdleitung
Câble de terre
Aardsnoer
Jordkabel
Cavo di messa a terra
Cable a tierra
Fio terra
White stripe
Weißer streifen
Bande blanche
Witte streep
Vitrandig
Striscia bianca
Banda blanca
Listra branca
CD player/Tuner/Timer
CD-Spieler/Tuner/Timer
Lecteur de CD/tuner/programmateur
CD-speler/Tuner/Schakelklok
CD-spelare/tuner/timer
Lettore CD/sintonizzatore/timer
Reproductor CD/radio/temporizador
Tocador CD/Rádio/Temporizador
Cassette deck/Amplifier
Cassettendeck/Verstärker
Platine à cassette/amplificateur
Cassettedeck/Versterker
Kassettdäck/förstärkare
Registratore a cassette/amplificatore
Magnetófono/Amplificador
Deck da cassete/Amplifieador
To an AC outlet
Zu der Wandsteckdose
Vers prise secteur
Naar een stopcontact
Till ett vägguttag
A prese di corrente alternata
A una toma de C.A.
Para uma tomada de C.A.

To connect, push the middle of the plug and insert it until it clicks.

Zum Anschließen die Steckermitte drücken, dann den Stecker bis zum Einrasten einschieben.

Pour brancher la fiche, la pousser au centre et l'introduire jusqu'à ce qu'elle produise un déclic.

Voor aansluiten het midden van de stekker indrukken en vervolgens insteken totdat deze vastklikt.

Anslut genom att trycka mitt på kontakten och för in den tills den låses fast med ett klick.

Per collegare, spingere la spina sino a che non la si sente scattare al suo posto.

Para conectar, empuje la parte del medio del enchufe e insértelo hasta que se escuche click.

Para conectar, empurrar o meio da tomada e inseri-la até ocorrer um estálo.

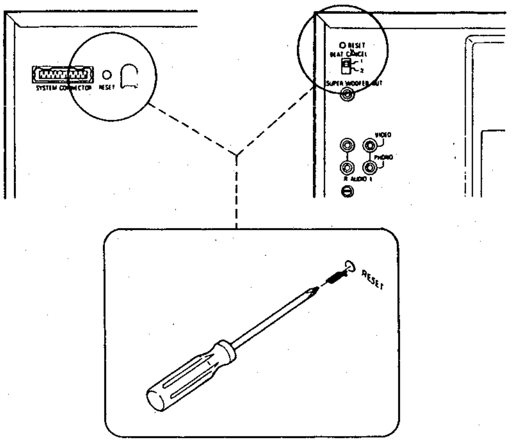
To disconnect
Abziehen
Pour débrancher
Losmaken
Att koppla ur
Per scollegarla:
Para desconectar ...

OPERATING THE RESET SWITCH

This CD / TUNER and TAPE DECK / PRE-AMPLIFIER unit is provided with a reset switch on the rear panel. The reset switch serves to initialize the microprocessor in the each units which controls the CD, TUNER, TAPE DECK and etc block. If the unit is to be serviced or key input is not acknowledged even when the CD / TUNER, TAPE DECK and etc. operation buttons are pressed, press the RESET switch and initialize the microprocessor following the step below.

1). Disconnect the AC power cord from the power outlet.
2). Keep the RESET switch depressed for 60 seconds.
   (The backed up electrolytic capacitor is discharged by keeping the RESET switch depress.)
3). Reconnect the AC power cord to the power outlet.
4). Press the CD / TUNER, TAPE DECK and etc. operations, and check their operation.

CD player/Tuner/Timer
CD-Spieler/Tuner/Timer
Lecteur de CD/tuner/programmateur
CD-speler/Tuner/Schakelklok
CD-spelare/tuner/timer
Lettore CD/sintonizzatore/timer
Reproductor CD/radio/temporizador
Tocador CD/Rádio/Temporizador



Cassette deck/Amplifier
Cassettendeck/Verstärker
Platine à cassette/amplificateur
Cassettedeck/Versterker
Kassettdäck/förstärkare
Registratore a cassette/amplificatore
Magnetófono/Amplificador
Deck da cassete/Amplifieador

PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION: Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.
N.S.P : Not available as service parts.

PACKING

Ref. No.	Part No.	Description
	614 243 2259	INNER CARTON
	614 243 9258	PAD,TOP
	614 243 9241	PAD,BOTTOM
	614 246 8876	SHEET,CT UNIT
	614 239 1785	SHEET,CD TRAY
	614 239 1778	SHEET,DA UNIT
	614 244 0261	INNER POLYE COVER,CT UNIT
	614 244 0261	INNER POLYE COVER,DA UNIT
	614 236 0132	POLY COVER,REMOCON
	614 244 0247	INNER POLYE COVER, INST & ACCESSORY
	614 176 1039	INNER POLYE COVER,SCREW
	614 231 6832	LABEL,SAFETY,LASER

ACCESSORIES

Ref. No.	Part No.	Description
	614 243 2280	INSTRUCTION MANUAL
	614 023 7344	ANTENNA,FM
or	614 229 4635	ANTENNA,FM
	614 234 5511	LOOP ANTENNA,AM
	411 083 9307	SCR WOOD RND 3.1X13,AM ANT
	614 239 5288	ASSY,CONNECTOR-P,19P, CD/TUNER - DECK/AMP UNIT

REMOTE CONTROLLER UNIT

PARTS LIST

REMOCON (RB-D30)

Ref. No.	Part No.	Description
	614 243 8152	ASSY,REMOCON
	614 235 9433	LID,BATTERY

TUNER / CD PLAYER UNIT

ADJUSTMENT (TUNER)

- Use a plastic screwdriver for adjustment.
- Adjust the intermediate frequency of AM and FM to the frequency of ceramic filter.

1. FM BAND

SG RF Level : 75 ohm Open voltage dBμV
Antenna : 75 ohm Direct, Modulation : 1kHz, Dev. : ±75kHz (mono) · ±40kHz (main) · ±6.75kHz(pilot)

STEP	ITEMS	TUNING FREQUENCY	INPUT CONDITION		OUTPUT CONDITION		PARTS	STANDARDS
			MEASURE	INPUT	MEASURE	OUTPUT		
1	COVER	87.5MHz 108.0MHz	------	------	Digital Voltmeter	TP202(H) TP201(E)	------ ------	Confirm 1.4~1.6V Confirm ≤8.5V (about 7.8V)
2	IF(0V)	98.0MHz	FM SG (66dB)	TP211(H) TP212(E)	Digital Voltmeter	TP203(H) #TP204(E)	T2202	0±0.05V
3	VCO	98.0MHz	FM SG (66dB)	TP211(H) TP212(E)	Frequency Counter	TP206(H) TP207(E)	SVR23	##19KHz±50Hz

: TP204 is no earth point. ## : Adjust in the modulation off Tuner Mode : AUTO STEREO

2. MW BAND

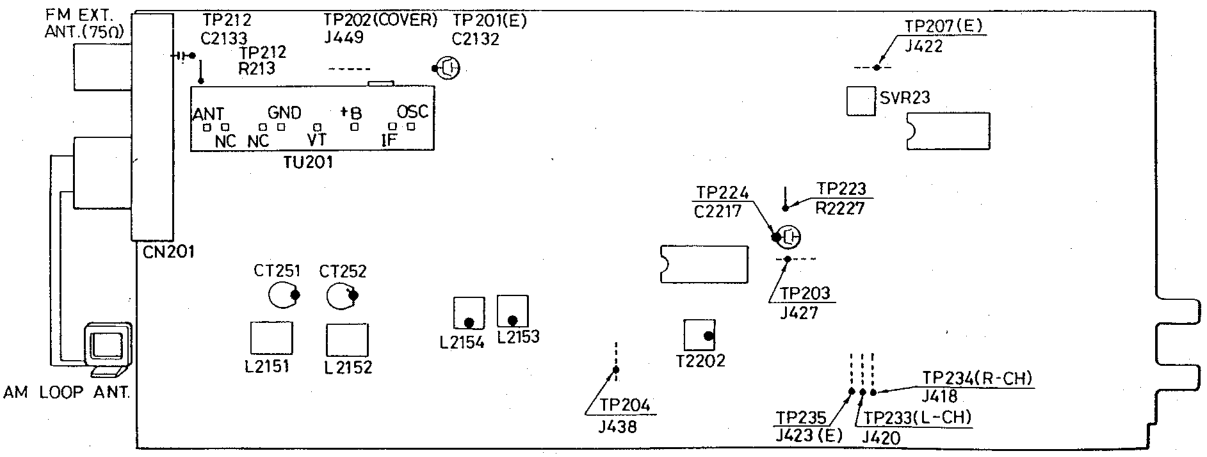
Antenna : IRE Loop, Modulation : 1kHz 30% SG RF Level : 75 ohm Open voltage dBμV

STEP	ITEMS	TUNING FREQUENCY	INPUT CONDITION		OUTPUT CONDITION		PARTS	STANDARDS
			MEASURE	INPUT	MEASURE	OUTPUT		
1	COVER	522kHz 1611kHz	------	------	Digital Voltmeter	TP202(H) TP201(E)	L2153 ------	Confirm 1.0 ~ 1.4V Confirm ≤8.5V (about 7.2V)
2	TRACKING	603kHz 1404kHz	AM SG (about 80dB)	LOOP ANT	VTVM Oscilloscope	TP233(L) TP234(R) TP235(E)	L2152 CT252	Output : Maximum Confirm to near the effective sensitivity.

3. LW BAND

STEP	ITEMS	TUNING FREQUENCY	INPUT CONDITION		OUTPUT CONDITION		PARTS	STANDARDS
			MEASURE	INPUT	MEASURE	OUTPUT		
1	COVER	144kHz 290kHz	------	------	Digital Voltmeter	TP202(H) TP201(E)	L2154 ------	Confirm 1.3 ~ 1.8V Confirm ≤8.5V (about 6.5V)
2	TRACKING	162kHz 279kHz	AM SG (about 80dB)	LOOP ANT	VTVM Oscilloscope	TP233(L) TP234(R) TP235(E)	L2151 CT251	Output : Maximum Confirm to near the effective sensitivity.

4. PARTS LOCATION


FM EXT. ANT.(75Ω)
TP212
C2133
TP212
R213
TP202(COVER)
J449
TP201(E)
C2132
ANT
GND
+B
OSC
NC
NC
VT
IF
TU201
TP207(E)
J422
SVR23
CN201
TP224
C2217
TP223
R2227
TP203
J427
CT251
CT252
L2151
L2152
L2154
L2153
T2202
TP204
J438
TP234(R-CH)
J418
TP235
J423(E)
TP233(L-CH)
J420
AM LOOP ANT.

LASER BEAM SAFETY PRECAUTIONS (CD)

Do not look straight at the laser beam from the pickup and do not point the beam at your fingers or any other part of your body.

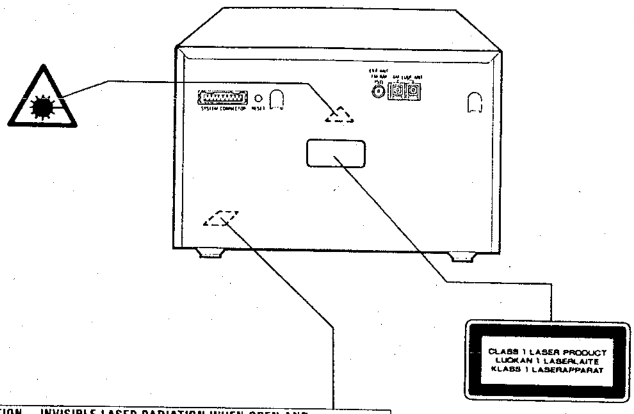
Note: The laser beam must never be allowed to enter the eyes since this may damage the eyes.

Power must never be supplied to a pickup with a damaged laser output part (objective lens, etc.).

Structural Safety Interlock

This model has a disc chuck lever and top lid. This disc chuck lever and top lid prevent to expose the laser beam for users.

INVISIBLE LASER RADIATION EXPOSURE TO BEAM IS DANGEROUS CLASS 1 LASER PRODUCT
OUTPUT POWER : 0.6 mW MAX WAVELENGTH : 790 nm



CAUTION – INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.

ADVARSEL – USYNLIG LASER STRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDS ÆTTELSE FOR STRÅLING.

VARNING – OSYNLIG LASER STRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÅLEN ÄR FARLIG.

VORSICHT – UNSICHTBARE LASERSTRAHLUNG TRITT AUS, WENN DECKEL GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT IST. NICHT DEM STRAHL AUSSETZEN.

VARO – AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

CAUTION - USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

ACHTUNG - WENN ANDERE ALS DIE HIER SPEZIFIZIERTEN BEDIENUNGS- ODER JUSTIEREINRICHTUNGEN BENÜTZT ODER ANDERE VERFAHRENS-WEISEN AUSGEFÜHRT WERDEN, KANN DIES ZU GEFÄHRLICHER STRAHLUNGSEXPOSITION FÜHREN.

ATTENTION - L'EMPLOI D'ORGANES DE COMMANDE OU DE RÉGLAGE, OU L'EXÉCUTION DE PROCÉDURES, AUTRES QUE CEUX SPÉCIFIÉS DANS LE MODE D'EMPLOI, PEUT PROVOQUER UNE EXPOSITION DANGEREUSE AU RAYONNEMENT.

OPGELET - HET GEBRUIK VAN REGELAARS OF HET MAKEN VAN AFSTELLINGEN E.D. DIE NIET IN DEZE GEBRUIKSAANWIJZING ZIJN BESCHREVEN KAN LEIDEN TOT SCHADELIJKE STRALINGEN.

VARNING! OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN VAD SOM BESKEIV I DENNA BRUKSANVISNING, KAN ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG LASERSTRÅLNING, SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.

CAUTELA - L'USO DI COMANDI, AGGIUSTAMENTI O PROCEDIMENTI DIVERSO DA QUELLO QUI SPECIFICATO PUÒ DAR LUOGO AD ESPOSIZIONE A RADIAZIONI PERICOLOSE.

VAROITUS! LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

1. Precautions for handling the pickup and semiconductors (particularly the ICs)

a. The pickup and semiconductors (particularly the ICs) may be damaged if they come into contact with a source of high voltage static electricity. Do not bring them, therefore, into contact with or into the vicinity of anything which has been charged with high voltage static.

b. The pickup consists of a large number of optical and precision parts. Do not store or repair it, therefore, in any location with a high temperature, high humidity, high magnetic fields or high dust concentration. (Since the pickup contains a powerful magnet, it must not be brought near any magnetized objects.)

c. Do not apply strong external pressure to the pickup or subject it to impact. Actions like these can cause the printed circuit board to crack or malfunctioning to occur.

d. The pickup is a single integrated part which has been very precisely adjusted. Therefore, its adjustment points and set screws must not be touched.

2. How to prevent static during handling

a. When replacing any of the parts, disconnect the power plug from the unit being repaired.

b. All measuring instruments, tools and repair equipment must be grounded. Cover the work bench where the repair work will be done with a grounded electrically conductive sheet.

c. Ground the metal part of the soldering iron in order to safeguard against leakage of electricity from the heater.

d. Repair personnel must wear grounding bands around their wrists to discharge static picked up by their bodies. These bands are grounded through a resistor (with a 1MΩ resistance).

Note: Under no circumstances must be the grounding bands be grounded without a resistor (with a 1MΩ resistance) since doing so involves the risk of electric shocks.

Since static in the clothes of the repair personnel will not be discharged by wearing grounding bands, every care must be taken not to allow the clothes to touch the pickup and semiconductors (particularly the ICs).

e. The pickup, which is a single integrated part, is kept in a conductive bag. Use this bag to convey the pickup from one place to another. In order to avoid damage resulting from static which may occur when the pickup is removed from the bag, make sure that it is not placed on top of the bag.

3. Cleaning the lens surface

a. Blow off dust on the lens using the kind of air brush which is used for cameras.

b. Remove stubborn dirt with a cotton swab dipped in isopropyl alcohol. Do not use any other type of cleaning fluid since it may mark the plastic lens.

Notes:
- Do not use too much isopropyl alcohol: the excess may seep inside the pickup.
- The lens is held in place by a very feeble support spring. Therefore, when cleaning the lens, avoid applying any more force by the cotton swab than is necessary since this may bend the support spring out of shape.

CD MECHANISM REMOVAL

1) Preparations

1) Do not apply unnecessary force to the pickup when handling it. Care should be taken not even to touch the lens or drive circuit sections.

2) Do not apply unnecessary force (do not pull or push it forcefully) to remove the disc tray from its inside position. Unnecessary force may break the teeth on the tray gear (CM6).

3) In the descriptions which follow, the numbers in the parentheses after the parts are reference numbers in the exploded views. Refer to these views.

2) Removing and installing the disc tray

1) Remove the stop screw (Y1) of the disc tray (31). (①)

2) Pull the disc tray (31) all the way forward by turning the tray drive gear (CM12) clockwise. (②)

Note: Do not take hold of the disc tray (31) and pull it out by force.

3) Push the catch on the disc tray (31) in the direction shown by the arrow, and draw out the disc tray (31). (③)

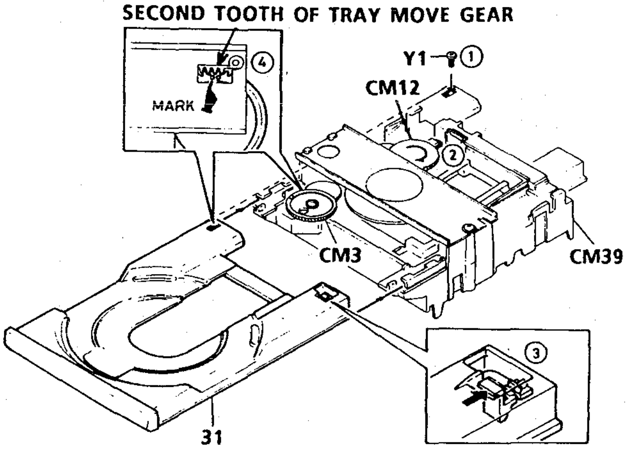
4) To install the disc tray, turn the gear (CM12) in the direction of the arrow as far as it will go. (②)

5) Align the disc tray (31) with the mechanism chassis (CM39). Adjusting second tooth of the tray move gear (CM3). (④)

6) Push the disc tray (31) toward the rear, and interlock it with the tray drive gear (CM12) as shown in Fig.④ .

7) Secure it with the screw (Y1) which was removed in step 1).

DISC TRAY REPLACEMENT



3) Disassembling the mechanism

(1) Removing the pickup block

1) Remove the disc tray (31). (Refer to steps 1), 2) and 3) of the section entitled "Removing and installing the disc tray.")

2) Turn the tray drive gear (CM12) counterclockwise (①), and move the pickup in the direction of arrow (②) as far as it will go.

3) Remove the spring wire (CM44) with tweezers. (③)

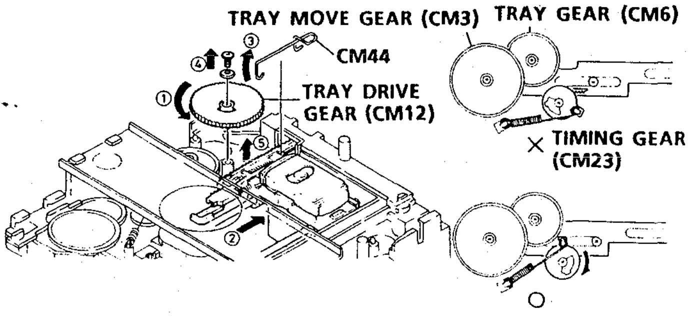
4) Remove the screw (CM11), and also remove the tray drive gear (CM12) and washer (CM13). (④)

5) Now remove the pick rack gears (CM16 and CM19).

Note: It will not be possible to remove the pick rack gears (CM16 and CM19) unless the pickup has been moved all the way in the direction of arrow (②).

6) The pickup block can now be removed by taking out the screw (CM51) and spring coil (CM49).

Note: If the timing gear (CM23) is in the state shown by "X" in the figure on the right, put it in the state shown by "○".

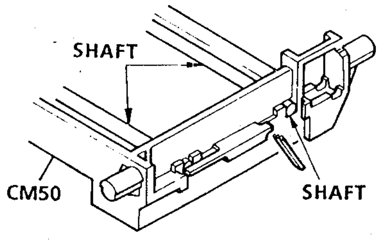


MECHANISM REMOVAL (CD)

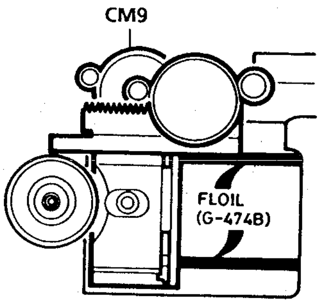
(2) Replacing and lubricating the pickup

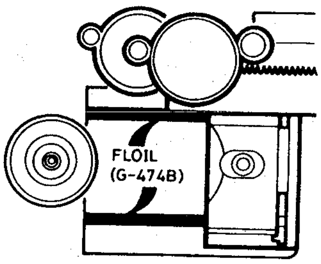
1) Pull out the two pickup rails (CM43) from the chassis (CM50).
2) The pickup (CM52) can now be removed once the two pickup rails (CM43) have been taken out.
3) When the pickup has been replaced, be sure to wipe the two pickup rails (CM43) cleanly and apply grease (FLOIL G-474B) around the entire circumference of the rails and along their entire length.
4) Pass the two pickup rails (CM43) through the new pickup (CM52), insert them into the chassis (CM50), and fix them in place at an angle of 45° as shown in the figure.

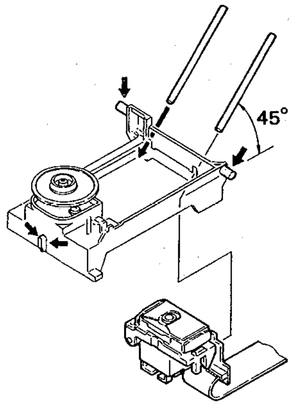
Notes:
a. When applying the grease, do not allow any grease to adhere to any other parts.
b. If a part (indicated by the dots in the figure) of the chassis (CM50) is damaged in the process of removing or inserting the two pickup rails (CM43) from or into the chassis (CM50), wipe the damaged area with a cloth dipped in alcohol (normal hexane), and bond it together using a bonding agent (Cemedine #575).

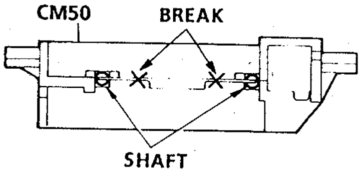

SHAFT
CM50
SHAFT

FIX BY THE CEMEDINE #575


CM9
FLOIL
(G-474B)

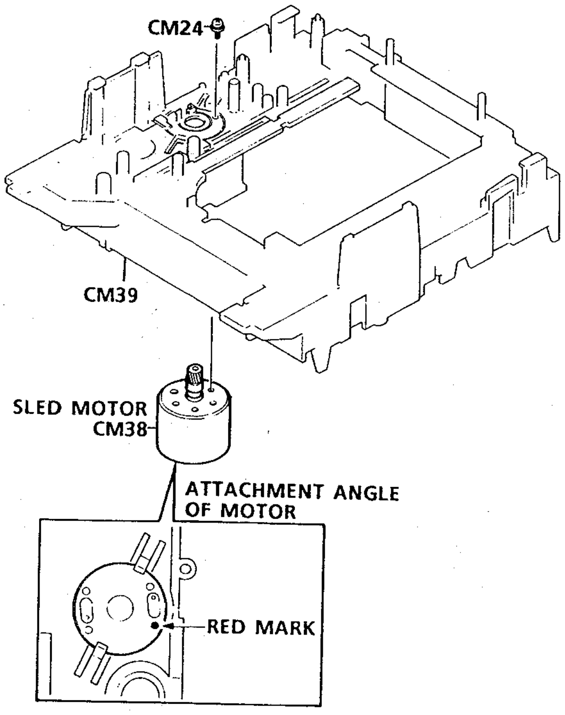

FLOIL
(G-474B)




CM50
BREAK
SHAFT

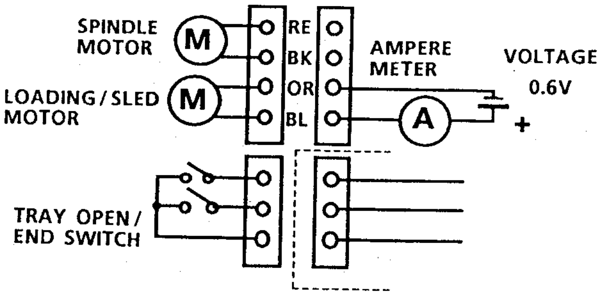
(3) Replacing the loading/sled motor

1) The loading/sled motor (CM38) can be removed from the chassis (CM39) once the screw (CM24) securing the motor (CM38) is removed.
2) Mount the new loading/sled motor (CM38) onto the chassis (CM39) using the screw (CM24).


CM24
CM39
SLED MOTOR
CM38
ATTACHMENT ANGLE
OF MOTOR
RED MARK

(4) Checking the loading/sled motor's operation

1) As shown in the figure, connect an ammeter and a DC power supply to the loading/sled motor (CM38), and set the tray open and end switches to the "off" [open] positions.
2) Check that the pickup (CM52) moves smoothly without stopping from the inner circumference of the compact disc toward its outer circumference when a DC 0.6V voltage is applied from the DC power supply.
3) The disc tray is housed inside and the gear (CM9) slips when a DC 4V voltage is applied from the DC power supply. Check that the ammeter indicates 120mA or more at this time.

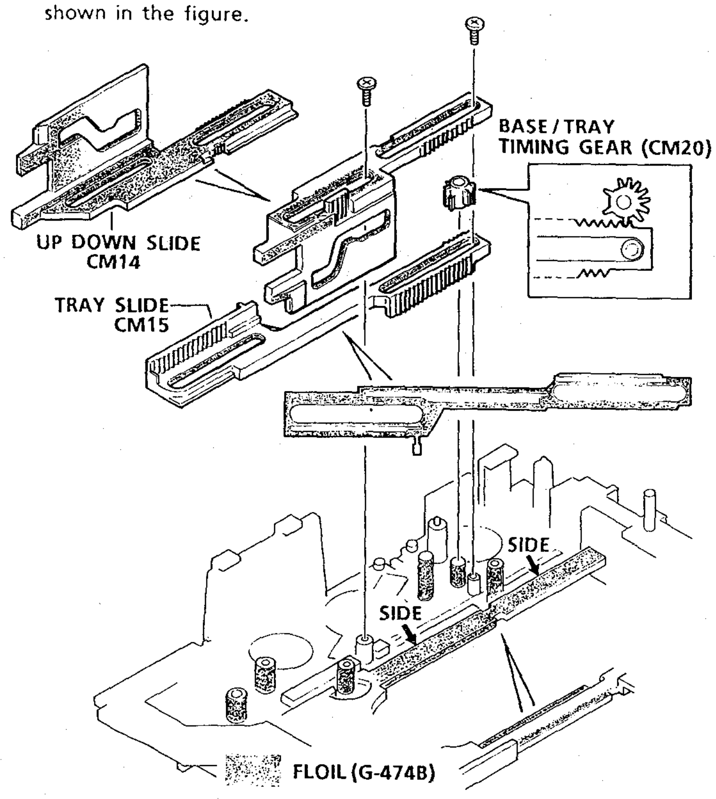

SPINDLE
MOTOR
M
LOADING / SLED
MOTOR
M
RE
BK
OR
BL
AMPERE
METER
A
VOLTAGE
0.6V
+
TRAY OPEN /
END SWITCH

MECHANISM REMOVAL (CD)

4) Check points for CD mechanism assembly and lubrication

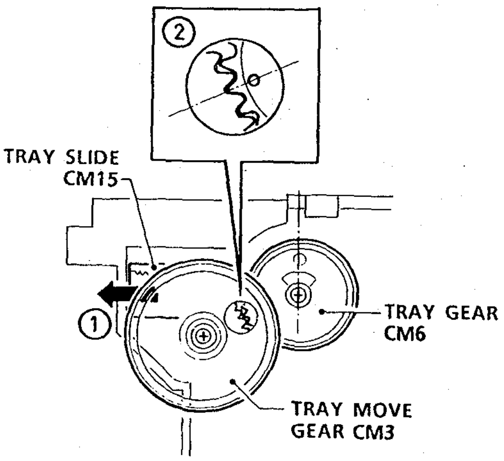
(1) Lubricating and mounting the tray slide

1) Apply grease (FLOIL G-474B) to the area indicated by the diagonal in the figure.
2) When inserting the tray slide (CM15), set the position where it is installed vis-a-vis the base/tray timing gear (CM20) as shown in the figure.


BASE / TRAY
TIMING GEAR (CM20)
UP DOWN SLIDE
CM14
TRAY SLIDE
CM15
SIDE
SIDE
FLOIL (G-474B)

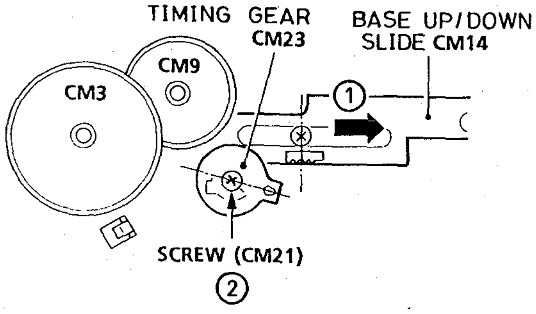
(2) Installing the tray gear

1) Move the tray slide (CM15) in the direction of the arrow ①.
2) Engage the gear section of the tray slide (CM15) with the inner gear of the tray gear (CM6) at the center line, as shown in the figure.
3) Align the tray move gear (CM3) with the position (○) of the hole in the outer gear of the tray gear (CM6) and engage the tray move gear (CM3), as shown in the figure.

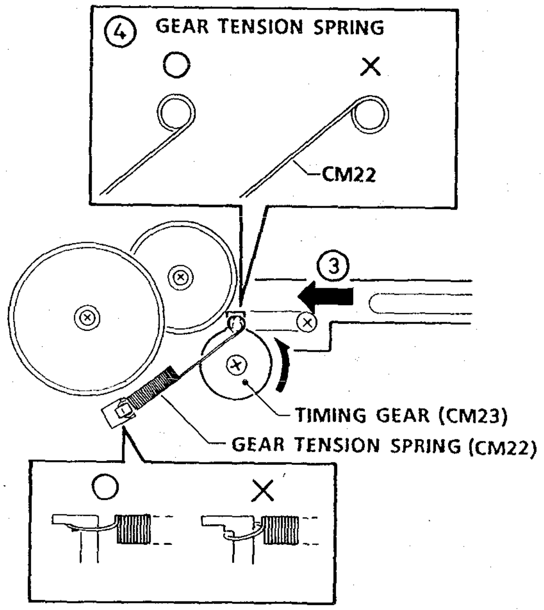

②
TRAY SLIDE
CM15
①
TRAY GEAR
CM6
TRAY MOVE
GEAR CM3

(3) Installing the base up/down slide and timing gear

1) Move the base up/down slide (CM14) in the direction of the arrow ①, and set the gears at the positions shown in the figure.
2) Insert the timing gear (CM23), and mount it using the screw (CM21).
3) Turn the timing gear (CM23) counterclockwise.


TIMING GEAR
CM23
BASE UP/DOWN
SLIDE CM14
CM9
CM3
①
SCREW (CM21)
②

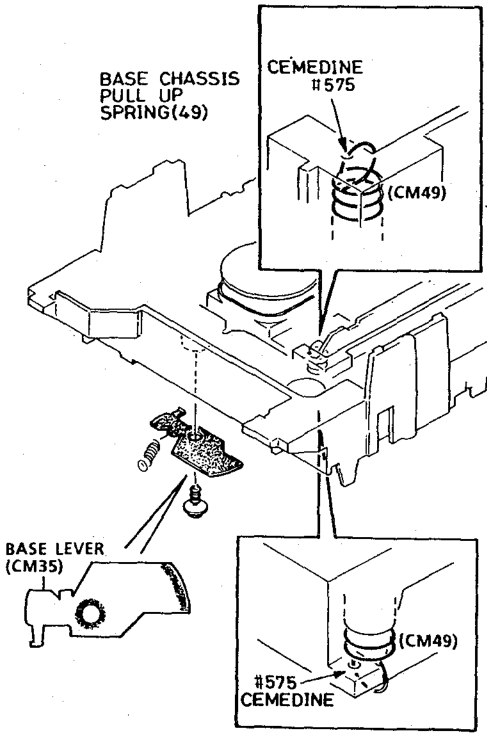
4) Hook the gear tension spring (CM22) onto the timing gear (CM23).


④ GEAR TENSION SPRING
○
×
CM22
③
TIMING GEAR (CM23)
GEAR TENSION SPRING (CM22)
○
×

MECHANISM REMOVAL (CD)

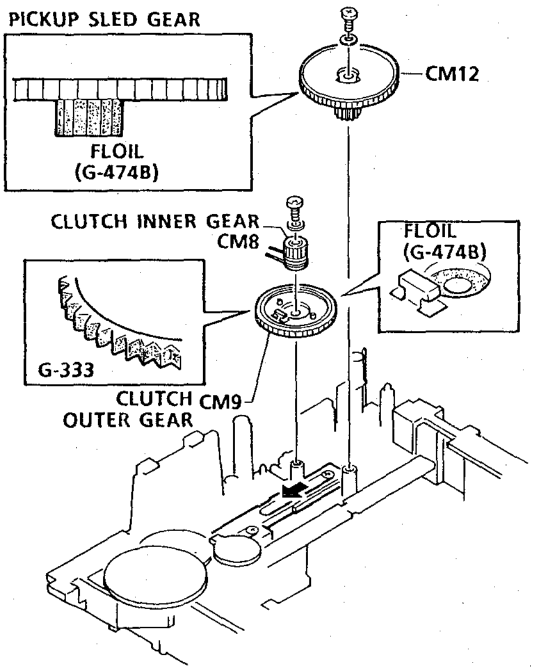
(4) Lubricating the base lever

Apply grease (FLOIL G-474B) to the ▒ area in the figure.


BASE CHASSIS PULL UP SPRING(49)
CEMEDINE #575
(CM49)
BASE LEVER (CM35)
(CM49)
#575 CEMEDINE

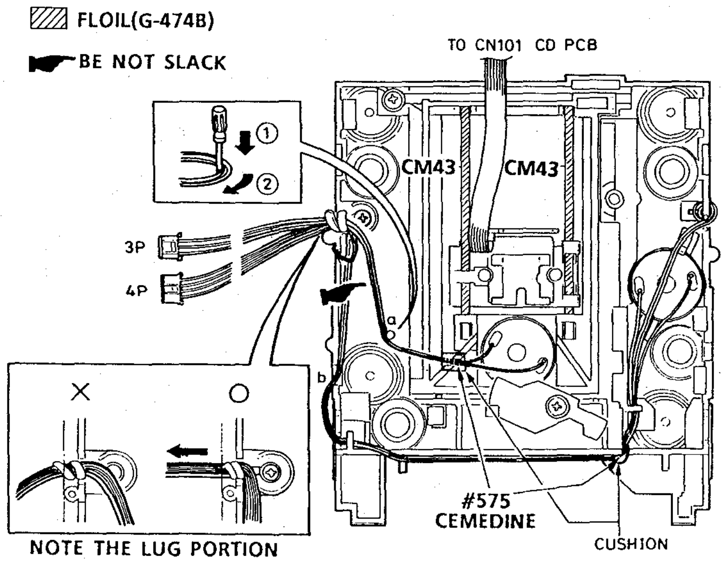
(5) Lubricating the pickup sled gear and clutch gear

1) Apply grease (FLOIL G-474B) around the entire circumference of the lower gear of the pickup sled gear (CM12), as shown in the figure (▒ area).
2) Apply grease (G-333) around the entire circumference of the outer clutch gear (CM9).
3) Apply grease (FLOIL G-474B) to the ▒ part of the outer clutch gear (CM9) where it makes contact with the inner clutch gear (CM8).


PICKUP SLED GEAR
FLOIL (G-474B)
CM12
CLUTCH INNER GEAR CM8
FLOIL (G-474B)
G-333
CLUTCH OUTER GEAR CM9

(6) Arranging and securing the leads

1) As shown in the figure, set the pickup (CM52) at a position on the innermost circumference of the compact disc, and pass the leads from the pickup (CM52) and spindle motor (CM48) through pin (a) of the chassis (CM39). Arrange the leads from the loading/sled motor (CM38) and sensor switch (micro switch) (CM26) by passing them through point (b) in the chassis (CM39). After securing the leads with the lug (CM41), check that the pickup (CM52) moves smoothly without the leads interfering with its movement.
2) If no problems arise in the ① check, secure the points shown in the figure using a bonding agent (Cemedine #575).


▨ FLOIL(G-474B)
BE NOT SLACK
TO CN101 CD PCB
①
②
CM43
CM43
3P
4P
a
b
c
X
O
#575 CEMEDINE
CUSHION
NOTE THE LUG PORTION

SERVICE MODE

Specifications

To enter any service mode other than timer debugging, first simultaneously press the OPEN/CLOSE and BAND keys on the CT unit. This accesses the service mode entry state. Now press one of the buttons on the CT unit to enter a service mode. As the service mode entry state is discontinued after 1 second elapses, the system will enter a service mode only if the next key is pressed within one second.

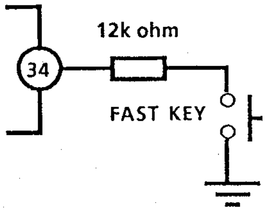
1. Confirm the clock

- When the CLOCK key is pressed during the service mode entry state, a rectangular wave with a frequency of one- fourth that of the oscillating frequency (1.048576MHz) is output from the micro processor's port CLKOUT.
- The clock output is stopped by pressing either the POWER or SET CLEAR key.

2. Timer debugging

- When the FAST key is pressed, the current time advances one minute and the seconds readout changes to 55 seconds. If the key is held down the time advances continuously.
- The FAST key, a concealed key not actually mounted to the set.

Note : For timer debugging, the service mode entry state (entered by simultaneously pressing the OPEN/CLOSE service mode entry key and the BAND key) is not necessary.


12k ohm
34
FAST KEY

3. Checking the key input signal connections

- Enter this mode by pressing the MEMORY(TUNER) key during the service mode entry state.
- The entire LCD goes out once this mode is entered.
- In this mode, as keys on the CT unit (or remote control unit) are pressed segments on the LCD corresponding to each key on a one-to-one basis come on (i.e. the lit portions gradually increase). (Refer to Table 1.)

KEY	DISPLAY	KEY	DISPLAY	KEY	DISPLAY
TIME / FADE	TIME	CLOCK	REC	FUNCTION	DIGIT 3 : 8
REPEAT	REPEAT	SLEEP	SLEEP	BAND	DIGIT 4 : 8
STOP	ONE	TUNING UP	SIDE A	PST UP	1 OF CALENDAR
CD MEMORY	PROG.	TUNING DOWN	SIDE B	PST DOWN	2 OF CALENDAR
PLAY / PAUSE	▷	WAKE UP	WAKE UP	FM/TUNE MODE	3 OF CALENDAR
RANDOM	RANDOM	TIMER	TIMER	WIDE	4 OF CALENDAR
OPEN / CLOSE	ALL	SET / CLEAR	@	FWD	DISC
EDIT	EDIT	MEMORY	5 OF CALENDAR	BACK	TRACK
COMPUTER REC	COMP. REC	POWER	DIGIT 2 : 8		

@ : Releases the key checking mode and returns the set to the normal mode.

TABLE 1 : CORRESPONDING KEYS AND DISPLAYS IN THE KEY CHECKING MODE

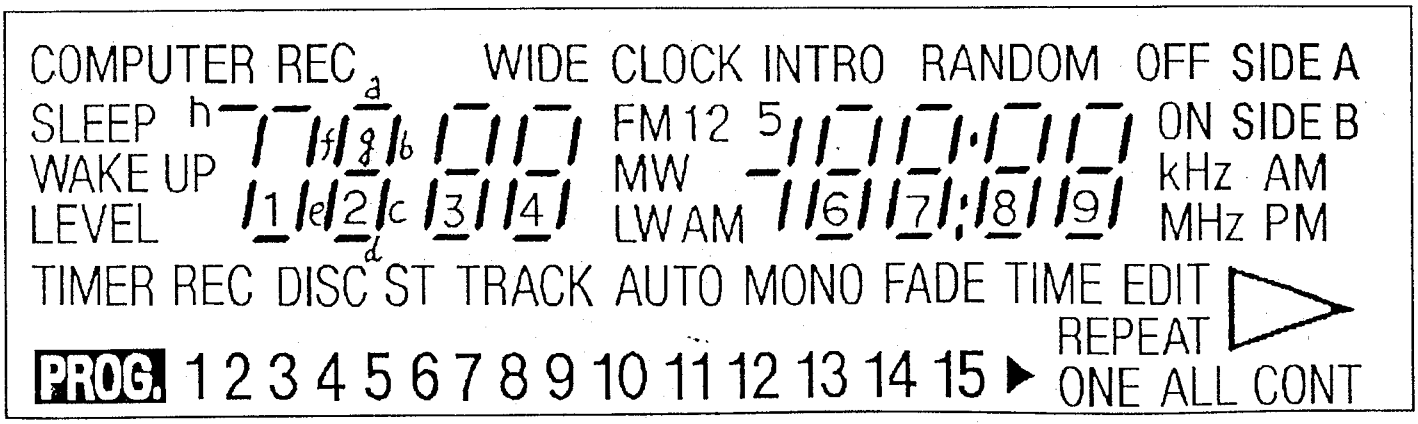

COMPUTER REC
WIDE CLOCK INTRO RANDOM OFF SIDE A
SLEEP
FM 12 5
ON SIDE B
WAKE UP
MW
kHz AM
LEVEL
LW AM
MHz PM
a b c d e f g h
1 2 3 4 5 6 7 8 9
TIMER REC DISC ST TRACK AUTO MONO FADE TIME EDIT
REPEAT
PROG. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
ONE ALL CONT

FIGURE 1 : LCD (LIQUID CRYSTAL DISPLAY)

4. Checking LCD connections

- Enter this mode by pressing the OPEN/CLOSE key during the service mode entry state. (See note.)
- The entire LCD goes out once this mode is entered.
- In this mode, one segment of the LCD lights each time the OPEN/CLOSE key is pressed.
- Press the SET/CLEAR key to exit this mode and return to the normal mode.

5. System connector checking mode

- Enter this mode by pressing the BAND key during the service mode entry state.
- Before entering this mode, connect a jig at the beginning of the system connector cord as shown in Figure 2.
- In this mode, check the signal connections shown in Table 2 for the set's CT unit and system connector cord.
- The results of the checking of connections appear on the LCD as shown in Table 2.
- Press the SET/CLEAR key to release the system connector checking mode and return to the normal mode.

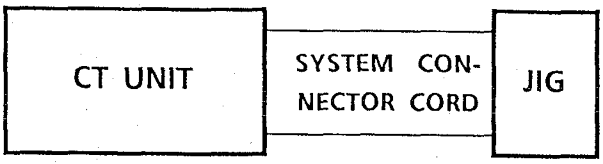


FIGURE 2 : CONNECTION DURING THE SYSTEM CONNECTOR CHECKING MODE

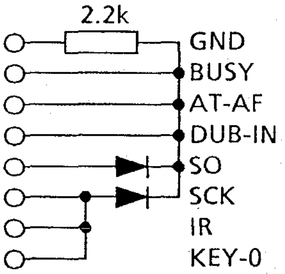


FIGURE 3 : CIRCUIT DIAGRAM OF THE CONNECTOR CHECKING JIG

STATE	DISPLAY
SO is N.G.	0
SCK is N.G.	1
DUB-IN is N.G.	2
AT-AF is N.G.	3

STATE	DISPLAY
BUSY is N.G.	4
IR is N.G.	5
KEY-0 is N.G.	6
All OK	-

Note: : With the D series, the system connector checking mode cannot be entered when the SCK(AD unit) connection is defective.

TABLE 2 : DISPLAYS DURING SYSTEM CONNECTOR CHECKING

6. CD tracking balance adjusting mode

- Enter this mode by pressing the PLAY/PAUSE key during the service mode entry state.
- If the power is off when this mode is entered, the power automatically comes on.
- In this mode, the tracking balance adjustment state (tracking is off) is automatically entered after the tray is completely closed. If the PLAY key is pressed in this state, the tracking servo is turned on and playing is begun at the present position. Therefore, the readout on the display at the time playing is begun indicates the initial position of the pickup (i.e. the position of the limit switch).
- In this mode, the tracking balance adjustment state can be entered by pressing the MEMORY key during playing. Pressing the PLAY key in this state turns on the tracking servo and causes playing to begin.
- Turning off the power releases the CD tracking balance adjusting mode.

7. CD operation display mode

- Enter this mode by pressing the STOP key during the service mode entry state.
- If the power is off when this mode is entered, the power automatically comes on.

SERVICE MODE

- In this mode, when CD function are used, displays like those shown in Table 3 (which represent CD operations different than normally displayed) appear in the LCD track number display.
- In this mode, the calendar numbers shown in Table 4 come on when an error occurs in CD operations, at which time the track number and calendar displays become fixed at their current readouts. To release these fixed displays, press the STOP key while operations are stopped.
- This mode is released when the power is turned off.

DISPLAY	OPERATION
00	Focus search has been begun
01	Focus search has been begun
02	Waiting for focusing
03	Focusing
04	Spindle kick is in progress
05	Both CLV and tracking are ON
06	Both CLV and tracking are ON
0 -	Focus search has been completed (success, failure)
20	Tray closing has begun
21	Tray closing is in progress
22	Pick return (internal direction) is in progress
23	Pick return (external direction) is in progress
2 -	Tray closing (pick return) has been completed
30	Spindle braking has begun
31	Spindle braking is in progress
32	Pick return is in progress
3 -	Spindle braking and pick return have been completed
40	Fast forwarding is in progress
41	Rewinding is in progress
50	Playing has begun
51	Playing is in progress
52	Playing is in progress (skip return operation)
60	TOC reading has been begun
61	TOC reading is in progress

DISPLAY	OPERATION
62	TOC reading is in progress
6 -	TOC reading has been completed (success/failure)
70	L-point access has been begun
71	L-point access (REV64 track jump)
72	L-point access (FWD64 track jump)
73	L-point access (REV16 track jump)
74	L-point access (FWD16 track jump)
75	L-point access (REV1 track jump)
76	L-point access has been completed
80	Pausing has begun
83	Pause (REV16 track jump)
84	Pause (FWD16 track jump)
85	Pause (REV1 track jump)
86	Pause (trace)
90	Music access has begun
91	Music access (high-speed access has begun)
92	Music access (high-speed access is in progress)
93	Music access (high-speed access has been completed)
94	Music access (high-speed access has been completed)
95	Music access (high-speed access has been completed)
96	Music access (REV64 track jump)
97	Music access (FWD64 track jump)
98	Music access (REV16 track jump)
99	Music access (FWD16 track jump)
9 -	Music access (final stage)

TABLE 3 : DISPLAYS DURING THE CD OPERATION MODE

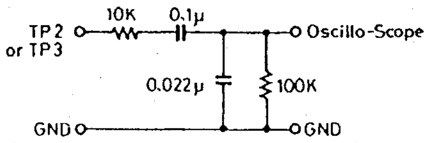
NUMBER	STATE OF CD ERROR
1	Focusing is not possible in focus search.
2	The subcode is not input during disc startup.
3	TOC cannot be read.
4	The focus was lost while the servo was on (during playing, etc.).
5	The subcode is not input while the servo is on (during playing, etc.).
6	The tray does not open completely.
7	The tray does not close completely.

TABLE 4 : DISPLAY OF CD ERRORS

CD ADJUSTMENT

Electrical Adjustment

So far we have presented explanations regarding compact disc player handling, notes prior to repair, handling the pick-up and disassembly of the unit. Be sure to carefully read these instructions before making any adjustments.



BAND PASS FILTER

Preparations for Adjustments

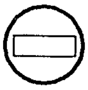
Measuring instruments, tools and filter

(1) Test disc. : YEDS 18 (Sony)
(2) Oscilloscope : SS5711 (10MHz or dual phenomenon)
or Memoryscope : DSS6521 (Storagescope)
(3) Digital voltmeter (Input impedance 1M ohm or more)
(4) Oscillator (400Hz, 300mV RMS)
(5) Frequency Counter (5MHz ; or more)
(6) Screw drivers (non-metalic) for adjustments
(7) Band Pass Filter
(8) AC Voltage Meter

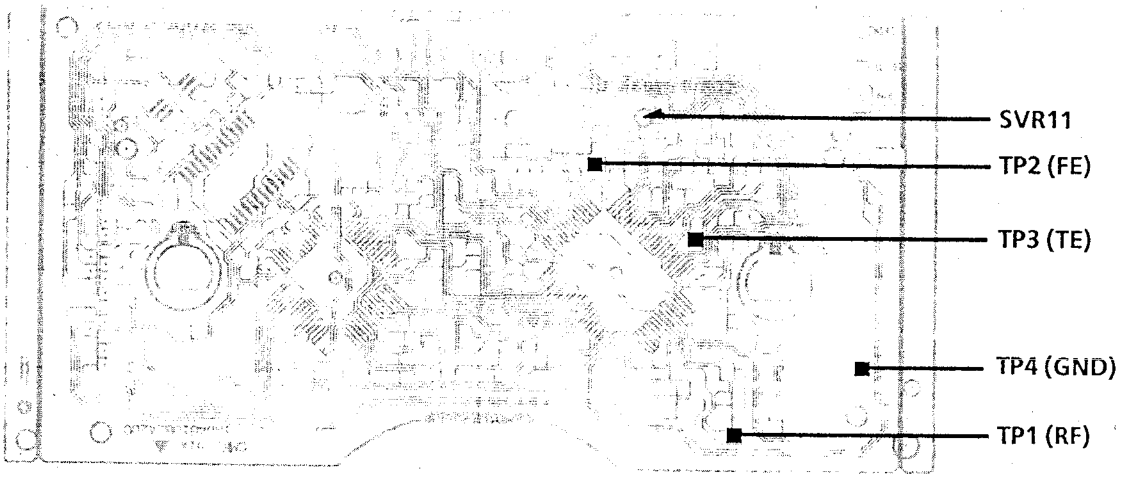
Notes : a. The adjustments can be using the equipment produced by other manufactures provided that the performance of that equipment corresponds to that of the above listed models.
b. Use a 10 : 1 probe for observing signals on the oscilloscope and storage scope.
c. Test disc is subject change without notice.

1. Initial set

Set the SVR11 at its initial position of adjustment controls as shown in figure below.



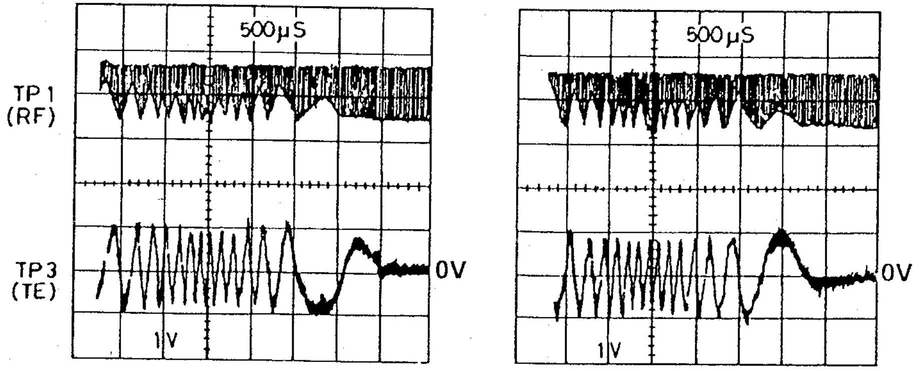
**SVR11
INITIAL SET
(MECHANICAL
SENTER)**



2. Tracking Balance Adjustment (SVR11)

1. Connect the oscilloscope to TP3 (TE) and TP4 (GND.).
2. Turn on the power of the unit. Insert test disc.
3. Play-back the test disc.
4. Continuously press the forward search ▸▸ or backward-search ▸▸ button to do it
5. Adjust SVR11 so that the TE (Tracking Error) signal waveform of TP3 on the oscilloscope is vertically symmetrical relative to 0V. (See figure right side)

*If the adjustment is imperfect, become run away the sled motor (pick-up sending motor), inferior playability.

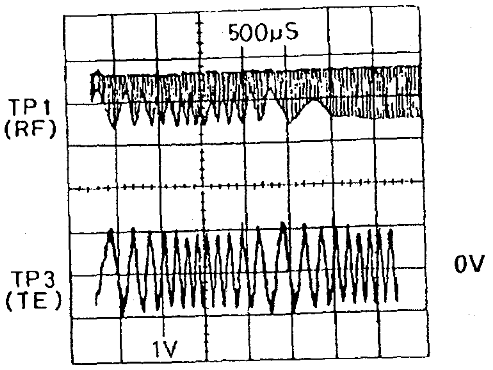


◀◀SEARCH SEARCH ▶▶

CD ADJUSTMENT

2. Other Adjustment of Tracking Balance (SVR11)

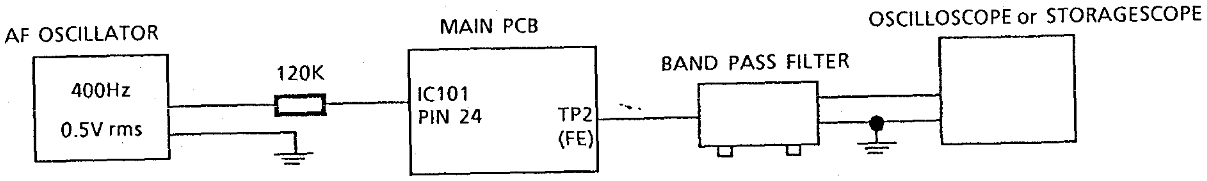
1. Set the service mode(CD tracking balance adjusting mode).
   - Enter this mode by pressing the PLAY/PAUSE key during the service mode entry state. Pressing the PLAY / Pause key in this state turns on the tracking servo and causes playing to begin. (See service mode)
2. Connect the oscilloscope to TP3 (TE) and TP4 (GND).
3. Adjust SVR11 so that the TE (Traverse) signal waveform of TP3 on the oscilloscope is vertically symmetrical relative to 0V. Or may adjust SVR11 so that the DC voltage : (Peak Hold Level) - (Bottom Hold Level) of the traverse signal is 0V. (See figure right side)
4. If it were not for obtain waveform at the right figure, repeat item 2-1 ~2-3.



3. Focus Gain Confirmation

1. Connect the storage scope to TP2 (F.E : Focus Error) through the Band pass filter. (See BPF Figure)
2. Turn on the power of the unit.
3. Play-back the test disc.
4. Set the output of AF oscillator to 400Hz, 0.5V rms and connect to pin 24 (IC101) through the resistor : 120k ohms.
5. Confirm so that the voltage of the F.E signal waveform on the storage scope is 0.5V p-p, ±3db by through BPF.

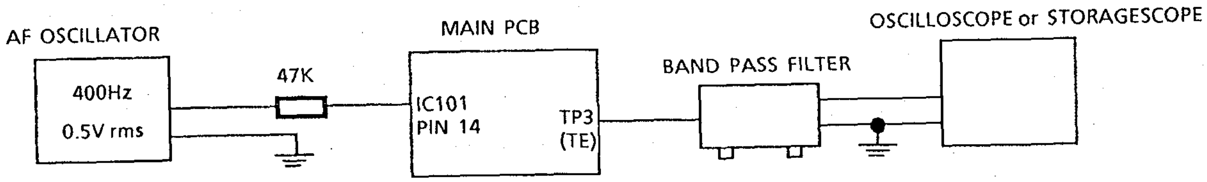
*If this CONFIRMATION is imperfect, become weak the mechanical shock, inferior playability, and can not playback the Disc.


AF OSCILLATOR
400Hz
0.5V rms
120K
MAIN PCB
IC101
PIN 24
TP2
(FE)
BAND PASS FILTER
OSCILLOSCOPE or STORAGESCOPE

4. Tracking Gain Confirmation

1. Connect the storage scope to TP3 (T.E) through the Band pass filter. (See BPF Figure).
2. Turn on the power of the unit.
3. playback the test disc.
4. Set the output of AF oscillator to 400Hz, 0.5V rms and connect to pin 14 (IC101) through resistor 47k ohms.
5. Confirm so that the voltage of T.E signal waveform on the storage scope is 0.5V p-p, ±3db by through BPF.

*If this CONFIRMATION is imperfect, become weak the mechanical shock, inferior playability, and can not playback the Disc.


AF OSCILLATOR
400Hz
0.5V rms
47K
MAIN PCB
IC101
PIN 14
TP3
(TE)
BAND PASS FILTER
OSCILLOSCOPE or STORAGESCOPE

PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION: Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.
N.S.P : Not avairable as service parts.

CABINET

Ref. No.	Part No.	Description
1	614 238 9966	ASSY,PANEL,FRONT
2	614 239 0924	ASSY,CABINET,TOP
3	614 241 6617	PANEL,REAR
4	614 239 0931	ASSY,CABINET,BOTTOM
5	614 239 1082	ESCUTCHEON,CD TRAY FRONT
6	614 239 1136	BUTTON,TIMER ETC.
7	614 239 1143	BUTTON,BAND ETC.
8	614 239 1150	BUTTON,TUN,PRESET
9	614 239 1167	BUTTON,CD
10	614 239 1174	BUTTON,CD SKIP
11	614 239 1181	BUTTON,CD OPEN/CLOSE

CHASSIS

Ref. No.	Part No.	Description
31	614 238 1694	TABLE,LOADING
32	614 239 1228	MOUNT-M,CD MECHA
33	614 239 1198	BRACKET-E,TU PCB
34	614 239 1204	BRACKET-E,CD PCB
35	614 239 1211	MOUNT-E,TU PCB
36	614 195 6978	RUBBER CUSHION,MECHA FLOAT
37	412 003 1708	SPECIAL SCREW,MECHA FIX
	614 191 3698	LABEL,LASER BEAM CAUTION
	614 232 0464	LABEL,SAFETY,LASER BEAM

FIXING PARTS

Ref. No.	Part No.	Description
Y1	411 022 8408	SCR S-TPG PAN 2X8
T2	411 021 1202	SCR S-TPG BIN 2X8
Y3	411 021 3107	SCR S-TPG BIN 2.6X8
Y4	411 021 1806	SCR S-TPG BIN 2.6X10
Y5	411 021 6405	SCR S-TPG BIN 3X8
Y6	411 021 6603	SCR S-TPG BIN 3X8
Y7	411 021 3503	SCR S-TPG BIN 3X10

ELECTRIC PARTS

Ref. No.	Part No.	Description
51	614 243 1481	CORD,CD MECHA-MICON PCB

TUNER P.C.BOARD ASSY

Ref. No.	Part No.	Description
71	614 241 9717	ASSY,PCB,TU MAIN
C2152	403 082 0201	POLYPRO 470P J 100V
C2155	403 082 2205	POLYPRO 560P J 100V
C2304	403 080 5000	POLYPRO 1000P J 100V
C2458	403 106 1603	NP-ELECT 1U Q 50V
CF201	614 240 2917	FILTER,CERAMIC,10.7MHZ,FM
CF202	614 240 2917	FILTER,CERAMIC,10.7MHZ,FM
CF204	614 211 2939	FILTER,459KHZ,AM
CF205	614 030 7443	I.F FILTER,459KHZ,AM

Ref. No.	Part No.	Description
CN201	614 210 2688	TERMINAL,(DIN)+PUSH 2P, FM ANT
CN241	614 225 3502	PLUG,14P,TO FRONT PCB
CT251	614 007 6332	TRIMMER,30PF,GR,LW
CT252	614 007 6356	TRIMMER,11PF,WH,MW
D2151	407 091 5004	VARACTOR DI SVC321SPA-C-2
D2152	407 091 5004	VARACTOR DI SVC321SPA-C-2
D2201	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D2301	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D2302	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
IC201	409 195 3108	IC LA1265-AUD
IC202	409 016 9500	IC LA3361
IC203	409 066 7600	IC LM7001
L2151	614 216 1029	TRANS,RF,LW
L2152	614 032 8059	ANT COIL,MW
L2153	614 239 7268	TRANS,OSC,MW
L2154	614 239 7275	TRANS,OSC,LW
L2201	614 028 4379	FILTER,CHOKE,1MH,AM
L2451	614 028 4256	FILTER,CHOKE,100UH,VDD
Q2105	405 012 5904	TR 2SC1923-Y
Q2131	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2152	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q2153	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q2154	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q2155	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q2156	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q2157	405 114 8407	TR 2SK193-LL
or	405 114 8506	TR 2SK193-ML
Q2158	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2201	405 018 7902	TR 2SC380TM-O
Q2202	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2203	405 001 7001	TR 2SA1015-GR
Q2301	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2302	405 067 0800	TR RN2207
or	405 078 2404	TR BN1A4P
or	405 000 0904	TR DTA114YS
Q2351	405 067 0800	TR RN2207
or	405 078 2404	TR BN1A4P
or	405 000 0904	TR DTA114YS
Q2352	405 067 0800	TR RN2207
or	405 078 2404	TR BN1A4P
or	405 000 0904	TR DTA114YS

PARTS LIST

Ref. No.	Part No.	Description
Q2354	405 067 0800	TR RN2207
or	405 078 2404	TR BN1A4P
or	405 000 0904	TR DTA114YS
Q2355	405 067 0800	TR RN2207
or	405 078 2404	TR BN1A4P
or	405 000 0904	TR DTA114YS
Q2451	405 114 1804	TR 2SC1815(L)-GR
or	405 114 1903	TR 2SC1815(L)-Y
Q2452	405 114 1804	TR 2SC1815(L)-GR
or	405 114 1903	TR 2SC1815(L)-Y
Q2461	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2701	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2702	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q2801	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2802	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
R2465	⚠ 401 018 1209	CARBON 33 JB 1/4W
SVR23	614 223 1906	POTENTIOMETER,10K(B),VCO
or	614 204 1901	SEMI-FIXED V.R,10K(B),VCO
TU201	614 241 7447	TUNER,RF-END,FM
T2202	614 030 4114	I.F.T,10.7MHZ,FM
T2203	614 029 3906	MX COIL,LPF
T2701	614 027 7845	COIL,CHOKE,TRAP
T2801	614 027 7845	COIL,CHOKE,TRAP
X2451	614 240 1118	RESONATOR,7.2MHZ,FOR IC203
or	614 234 0486	RESONATOR,7.2MHZ,FOR IC203

CD MICON P.C.BOARD ASSY

Ref. No.	Part No.	Description
72	614 239 2065	ASSY,PCB, CD MICON
C1301	403 196 9602	DL-ELECT 0.047F Z 5.5V,FOR MICON BACKUP
C1302	403 135 3302	ELECT 1000U M 6.3V
C1522	403 056 7908	POLYESTER 1000P K 50V
C1523	403 056 7908	POLYESTER 1000P K 50V
C1608	403 043 3104	ELECT 2200U M 16V, FOR +9V
C1609	403 042 6205	ELECT 1000U M 16V, FOR -9V
CN131	614 225 6459	PLUG,13P,CD-FRONT
CN132	614 225 6381	PLUG,6P,CD-FRONT
CN141	614 241 6143	SOCKET,22P,CD-MECHA
or	614 243 3218	SOCKET,22P,CD-MECHA
CN161	614 239 5455	SOCKET,19P,CT-DA UNIT
D1301	407 005 4505	DIODE DS442X
or	407 013 7109	DIODE 1S2473
D1302	407 050 1801	ZENER DIODE GZA3.9Z
or	407 053 5202	ZENER DIODE MTZ3.9B
D1303	407 005 4505	DIODE DS442X
or	407 013 7109	DIODE 1S2473
D1304	407 005 4505	DIODE DS442X, FOR IR
or	407 013 7109	DIODE 1S2473, FOR IR
D1601	⚠ 407 004 9105	DIODE DSF10C
or	⚠ 407 012 3300	DIODE 1SR35-200A
D1602	⚠ 407 004 9105	DIODE DSF10C
or	⚠ 407 012 3300	DIODE 1SR35-200A
D1603	⚠ 407 004 9105	DIODE DSF10C
or	⚠ 407 012 3300	DIODE 1SR35-200A
D1604	⚠ 407 004 9105	DIODE DSF10C
or	⚠ 407 012 3300	DIODE 1SR35-200A
D1605	407 013 7109	DIODE 1S2473
or	407 005 4505	DIODE DS442X
IC103	410 146 1104	IC UPD75116GF-F56-3BE

Ref. No.	Part No.	Description
IC107	⚠ 409 189 4203	IC M5278D05
IC108	409 040 1105	IC NJM79L05A
IC109	409 039 9204	IC NJM78L05A
L1301	614 028 4133	FILTER,CHOKE,10UH
L1501	614 212 3171	INDUCTOR,FERITE,CD OUT L-CH
L1502	614 212 3171	INDUCTOR,FERITE,CD OUT R-CH
Q1301	405 006 1806	TR 2SA933S-R
or	405 006 1905	TR 2SA933S-S
or	405 002 1305	TR 2SA1048-Y
Q1302	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
or	405 014 5209	TR 2SC2458-GR
Q1303	405 006 1806	TR 2SA933S-R
or	405 006 1905	TR 2SA933S-S
or	405 002 1305	TR 2SA1048-Y
Q1304	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
or	405 014 5209	TR 2SC2458-GR
Q1305	405 006 1806	TR 2SA933S-R
or	405 006 1905	TR 2SA933S-S
or	405 002 1305	TR 2SA1048-Y
Q1500	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
or	405 014 5209	TR 2SC2458-GR
Q1501	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
or	405 014 5209	TR 2SC2458-GR
S1301	614 221 8327	SWITCH,TACT,RESET
X1301	614 229 3300	RESONATOR,XTAL,4.19MHZ

CD MAIN P.C.BOARD ASSY

Ref. No.	Part No.	Description
73	614 239 2072	ASSY,PCB,CD MECHA
CN101	614 227 7935	SOCKET,13P,FOR PICKUP(FFC)
CN102	614 017 3833	PLUG,4P,FOR MOTOR
CN103	614 017 3826	PLUG,3P,FOR SWITCH
CN104	614 035 2061	SOCKET,22P,TO CD MICON(FFC)
or	614 243 3225	SOCKET,22P,TO CD MICON(FFC)
IC101	409 245 4802	IC LA9210M
IC102	⚠ 409 247 0000	IC LA6524
IC104	409 248 8708	IC LC7866E
IC105	409 278 0109	IC SM5870DS
IC106	409 241 5506	IC XRA15218F
or	409 192 7109	IC BA15218F
Q101	405 002 0308	TR 2SA1037K-R
Q102	405 014 4509	TR 2SC2412K-R
Q103	405 014 4509	TR 2SC2412K-R
SVR11	614 223 1906	POTENTIOMETER,10K(B),T.BAL
TP101	614 227 6839	TERMINAL,TEST POINT,RF
TP102	614 227 6839	TERMINAL,TEST POINT,FE
TP103	614 227 6839	TERMINAL,TEST POINT,TE
TP104	614 227 6839	TERMINAL,TEST POINT,GND
TP105	614 227 6839	TERMINAL,TEST POINT,PLL
X101	614 236 1818	RESONATOR,16.93MHZ

FRONT P.C.BOARD ASSY

Ref. No.	Part No.	Description
74	614 239 2058	ASSY,PCB,FRONT
	614 241 9151	REFLECTOR,LCD
	614 238 8037	SHEET,LCD
	411 021 3107	SCR S-TPG BIN 2.6X8
CN251	614 221 9133	SOCKET,13P,CD MICON PCB
CN252	614 221 9065	SOCKET,6P,CD MICON PCB

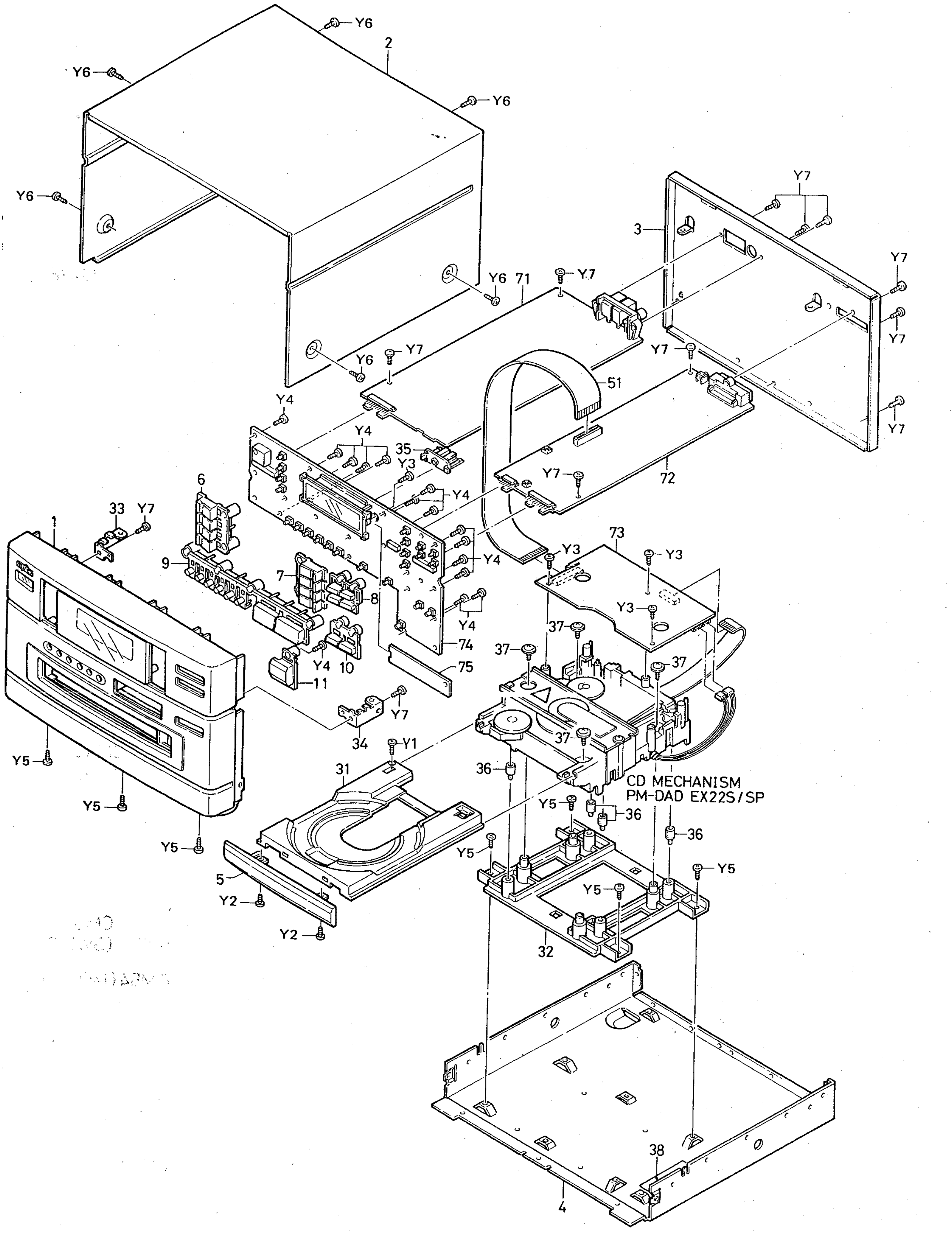
PARTS LIST

Ref. No.	Part No.	Description
CN253	614 226 2481	SOCKET,14P,TUNER PCB
D2501	407 013 1701	DIODE 1S1588
or	407 013 7109	DIODE 1S2473
or	407 005 4505	DIODE DS442X
D2502	407 013 1701	DIODE 1S1588
or	407 013 7109	DIODE 1S2473
or	407 005 4505	DIODE DS442X
IC251	410 146 1203	IC UPD75306GF-225-3B9
L2501	614 028 4256	FILTER,CHOKE,100UH
LCD21	614 238 0284	LCD(LIQUID CRYSTAL DISPLAY)
S2511	614 220 5563	SWITCH,TACT,OPEN/CLOSE
S2512	614 220 5563	SWITCH,TACT,PLAY/PAUSE
S2513	614 220 5563	SWITCH,TACT,STOP
S2514	614 220 5563	SWITCH,TACT,REPEAT
S2515	614 220 5563	SWITCH,TACT,CD MEMORY
S2516	614 220 5563	SWITCH,TACT,C.REC
S2517	614 220 5563	SWITCH,TACT,EDIT
S2518	614 220 5563	SWITCH,TACT,TIME/FADE
S2521	614 220 5563	SWITCH,TACT,CLOCK
S2522	614 220 5563	SWITCH,TACT,SLEEP
S2523	614 220 5563	SWITCH,TACT,WAKE UP
S2524	614 220 5563	SWITCH,TACT,TIMER
S2525	614 220 5563	SWITCH,TACT,PSP DOWN
S2526	614 220 5563	SWITCH,TACT,FWD
S2527	614 220 5563	SWITCH,TACT,BACK
S2528	614 220 5563	SWITCH,TACT,RANDOM
S2531	614 220 5563	SWITCH,TACT,BAND
S2532	614 220 5563	SWITCH,TACT,CLEAR
S2533	614 220 5563	SWITCH,TACT,TUN MEMORY
S2534	614 220 5563	SWITCH,TACT,MODE
S2535	614 220 5563	SWITCH,TACT,PST UP
S2536	614 220 5563	SWITCH,TACT,TUN UP
S2537	614 220 5563	SWITCH,TACT,TUN DOWN
S2540	407 152 1303	PHOTO DI SPS-422-1,IR
or	614 237 8724	OPTO CONNECTOR,IR RESEIVER
X2501	614 215 5561	RESONATOR,CERAMIC,4.19MHZ,F

LED (LCD BACK LIGHT) P.C.BOARD ASSY

Ref. No.	Part No.	Description
74	614 239 9095	ASSY,PCB,LED
CN562	614 242 9488	ASSY,CONNECTOR-S,2P, FROM FRONT
D5551	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5552	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5553	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5554	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5555	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5556	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5557	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5558	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5559	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5560	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5561	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5562	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5563	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5564	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5565	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5566	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5567	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5568	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5569	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5570	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL

EXPLODED VIEW (TUNER & CD UNIT)


Y6
2
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37
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Y4 10
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74
75
Y7
34
Y1
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31
36
CD MECHANISM
PM-DAD EX22S/SP
Y5
Y5
Y5
36
36
Y5
Y5
5
Y2
Y5
Y2
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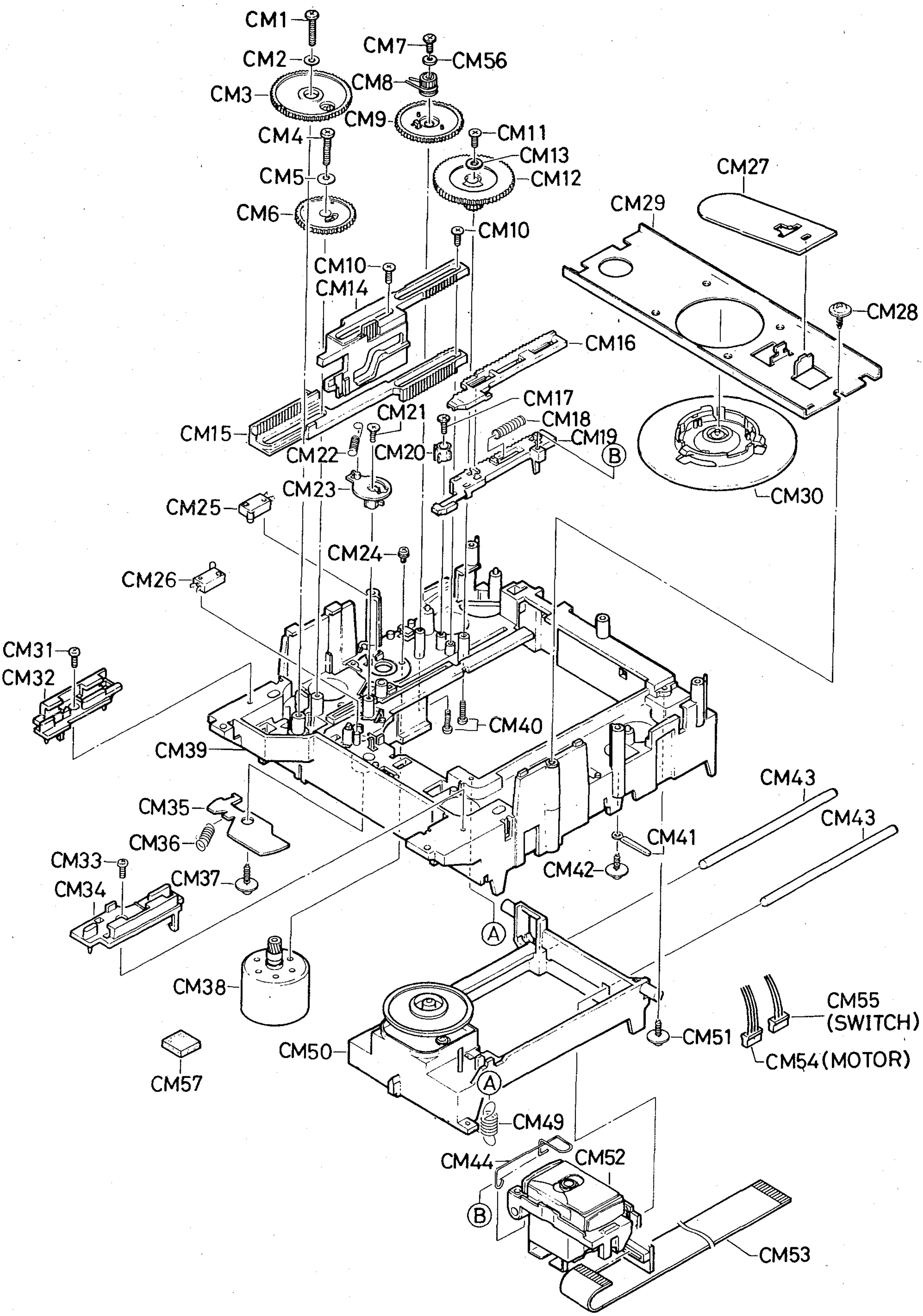
38
4

EXPLODED VIEW (CD MECHANISM)



CM1
CM2
CM3
CM4
CM5
CM6
CM7
CM56
CM8
CM9
CM11
CM13
CM12
CM10
CM27
CM29
CM10
CM14
CM28
CM16
CM17
CM18
CM19
B
CM15
CM21
CM22
CM20
CM30
CM23
CM25
CM24
CM26
CM31
CM32
CM40
CM39
CM35
CM36
CM43
CM43
CM41
CM33
CM34
CM37
CM42
A
CM38
CM55
(SWITCH)
CM51
CM54(MOTOR)
CM50
CM57
A
CM49
CM44
CM52
B
CM53

PARTS LIST (CD MECHANISM)

CD MECHANISM (PM-DAD EX22S / SP)

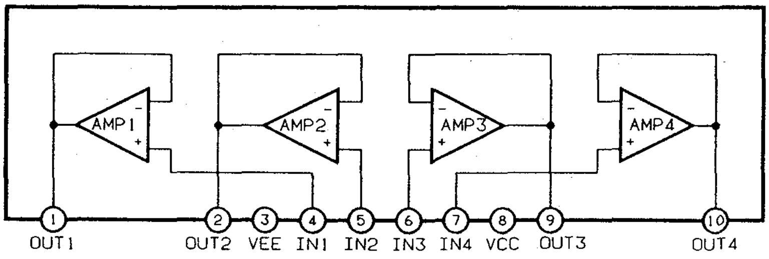
Ref. No.	Part No.	Description
CM01	411 119 8908	SCR S-TPG PAN 2X14,GEAR FIX
CM02	411 087 4704	WASHER V 2X6X0.4,GEAR FIX
CM03	614 224 2056	GEAR TRAY MOVE
CM04	411 119 8908	SCR S-TPG PAN 2X14,GEAR FIX
CM05	411 087 4704	WASHER V 2X6X0.4,GEAR FIX
CM06	614 224 2049	GEAR,TRAY
CM07	411 152 4301	SCR S-TPG PAN PCS 1.7X6
CM08	614 237 9172	ASSY,GEAR,CLUTCH INNER
CM09	614 238 4794	GEAR,CLUTCH OUTER
or	614 243 6455	GEAR,CLUTCH OUTER
CM10	412 031 2104	SPECIAL SCREW,SLIDE FIX
CM11	411 152 4301	SCR S-TPG PAN PCS 1.7X6
CM12	614 224 1998	GEAR,PICK SLED
CM13	412 045 4101	SPECIAL WASHER,PICK GEAR
CM14	614 233 6311	SLIDE,BASE UP/DOWN
CM15	614 224 2094	SLIDE,TRAY
CM16	614 224 2018	GEAR,PICK RACK UPPER
CM17	412 031 2104	SPECIAL SCREW,GEAR FIX
CM18	614 225 0884	SPRING,COMP,RACK BACK
CM19	614 224 2001	GEAR,PICK RACK LOWER
CM20	614 224 2032	GEAR,BASE/TRAY TIMING
CM21	412 031 2104	SPECIAL SCREW,GEAR FIX
CM22	614 242 8665	SPRING,TENS,GEAR TENSION
CM23	614 237 8304	GEAR,TIMING
CM24	411 044 7205	SCR PAN+SW 2X4,SLED MOTOR
CM25	614 018 9223	SWITCH,LIMIT
CM26	614 018 9223	SWITCH,TRAY OPEN
CM27	614 202 5277	SPRING PLATE,CHUCKING
CM28	411 020 9803	SCR S-TPG BRZ+FLG 3X6
CM29	614 224 1967	BRACKET-M,CHUCKING
CM30	614 243 2594	ASSY,PULLEY
CM31	411 022 7807	SCR S-TPG PAN 2X6,BRACKET
CM32	614 224 3176	BRACKET-M,TRAY GUIDE(L)
CM33	411 022 7807	SCR S-TPG PAN 2X6,BRACKET
CM34	614 224 3183	BRACKET-M,TRAY GUIDE(R)
CM35	614 233 6304	LEVER,BASE
CM36	614 226 5536	SPRING,COMP,BASE LEVER MOVE
CM37	411 020 9902	SCR S-TPG BRZ+FLG 3X8,LEVER
CM38	614 225 4820	ASSY,MOTOR,LOADING/SLED
CM39	614 241 5764	CHASSIS,LOADING CHASSIS
or	614 242 8641	CHASSIS,LOADING CHASSIS
CM40	412 031 2104	SPECIAL SCREW,REINFORCEMENT
CM41	614 129 9136	LUG,WIRE DRESS
CM42	411 021 5705	SCR S-TPG BIN 3X6,LUG FIX
CM43	614 230 0411	SHAFT,PICK RAIL
CM44	614 229 4529	SPRING,WIRE,PICK BACK
CM49	614 228 5084	SPRING,TENS,BASE PULL UP
CM50	614 247 1950	ASSY,CHASSIS,BASE CHASSIS, WITH SPINDOLE MOTOR + TURN-TABLE,SERVICE ONLY
CM51	411 020 9803	SCR S-TPG BRZ+FLG 3X6
CM52	614 239 1303	PICKUP,LASER,PLASTIC (SF-P1PS)
or	614 231 6047	PICKUP,LASER,ALMINUM (SF-90PS)
CM53	614 232 2062	CORD,13P,PICK UP
CM54	614 246 2959	ASSY,CONNECTOR-S,4P,
or	614 246 2966	SPINDLE/SLED MOTOR
CM55	614 246 2973	ASSY,CONNECTOR-S,3P,
or	614 246 2980	LIMIT/TRAY OPEN SWITCH
CM56	412 014 2800	SPECIAL WASHER,GEAR FIX
CM57	614 125 6528	CUSHION,MOTOR LEAD FIX

IC BLOCK DIAGRAM (CD)

IC101 LA9210M (Servo Signal Processor)

No.	PIN NAME	I/O	FUNCTION	No.	PIN NAME	I/O	FUNCTION
1	NC		Non Connection	41	NC		Non Connection
2	VEE		-5V	42	JP-	I	- Input of Track Jump Pulse Amplifier
3	E	I	IV Convert Input (from Photo Diode E)	43	JP +	I	+ Input of Track Jump Pulse Amplifier
4	F	I	IV Convert Input (from Photo diode F)	44	THLD	I	Hold of Output Voltage of Tracking Servo
5	FN	I	IV Converter Input	45	TGL	I	Tracking Gain Low
6	FO	O	IV Converter Output	46	TOFF	I	Input For Off the Tracking Servo
7	TEAO	O	Tracking Error Amplifier Output	47	TES	O	Tracking Error Signal
8	VREF2	I	Reference Voltage 2	48	HFL	O	Detect Track Signal
9	VREF3	I	Reference Voltage 3	49	FZD	O	Detect S Carve of Focus Error Signal
10	TES1	I	Test Input	50	FOCS	I	Input For Off the Focus Servo
11	ATSC	I	+ Input of Anti Shock Detect Amplifier	51	CLV-	I	- Input of CLV Error Amplifier
12	ATSC-	I	- Input of Anti Shock Detect Amplifier	52	CLV +	I	+ Input of CLV Error Amplifier
13	TPA +	I	- Input of Tracking Pulse Amplifier	53	SLCO	O	Slice Level Control Amplifier Output
14	TPA-	I	+ Input of Tracking Pulse Amplifier	54	$\overline{\text{EFMO}}$	I	$\overline{\text{EFMO}}$ (RF) Signal
15	TPAO	O	Tracking Pulse Amplifier Output	55	AI	I	EFMO (RF) Signal
16	TOFS	I	Input for Tracking Offset	56	VDD		+5V
17	THDS	I	Tracking Servo Hold Switch	57	PDO	I	+ Input of VCO Control Amplifier
18	TD +	I	Add the Track Jump Pulse	58	PDO-	I	- Input of VCO Control Amplifier
19	JPO	O	Track Jump Pulse Amplifier Output	59	VCOC	I	VCO Control Amplifier Output
20	SLEQ	I	Input for Sled Servo Equalizer	60	VCOO	O	VCO Output
21	TDO	O	Tracking Actuator Coil Driver Output	61	LF1	I	Input of Low Pass Filter
22	FDO	O	Focus Actuator Coil Driver Output	62	CLK	I	Clock
23	FD-	I	Input for Focus Actuator Coil Driver	63	LASER	I	Laser Control Signal
24	FSW	I	Focus Servo Switch	64	66/60	I	Select of DSP LC7866/LC7860
25	NC		Non Connection	65	NC		Non Connection
26	FEAO	O	Focus Error Amplifier Output	66	DF2	I	Input for Defect Pulse width Control
27	FE +	I	+ Input of Focus Error Amplifier	67	DF1	I	Input for Defect Pulse width Control
28	FD +	I	+ Input of Focus Actuator Coil Driver	68	PH3	O	Defect Detect Timing
29	SPO	O	CLV Error Amplifier Output	69	BH	I	Track Detect Timing
30	SPO-	I	Input for Spindle Motor Driver	70	PH	I	Focus Detect Timing
31	SPDO	O	Spindle Motor Driver Output	71	GND		Ground
32	VEE		-5V	72	RF SUM	O	RF SUM Amplifier Output
33	SLDO	O	Sled Motor Driver Output	73	RFS-	O	IV Converter Output
34	SL-	I	- Input of Sled Motor Driver	74	LDO	O	Laser Diode ON
35	SL +	I	+ Input of Sled Motor Driver	75	LDS	I	Input of Auto Laser Power Control
36	VCC		+5V	76	LDC	I	Input of Auto Laser Power Control
37	SLSW	I	Sled Servo Switch	77	VDD		+5V
38	DEFO	O	Defect Signal Output	78	FIN1	I	IV Convert Input (From Photo Diode A + C)
39	2FREQ	I	Input for VCO	79	FIN2	I	IV Convert Input (From Photo Diode B + D)
40	DRF	O	Focusing Servo ON : High Level	80	VREF1	I	Reference Voltage 1

IC102 LA6524 (Dual Motor & Actuator Coil Driver)



IC BLOCK DIAGRAM (CD)

C103 μPD75116-F56 (CD Micro Processor)

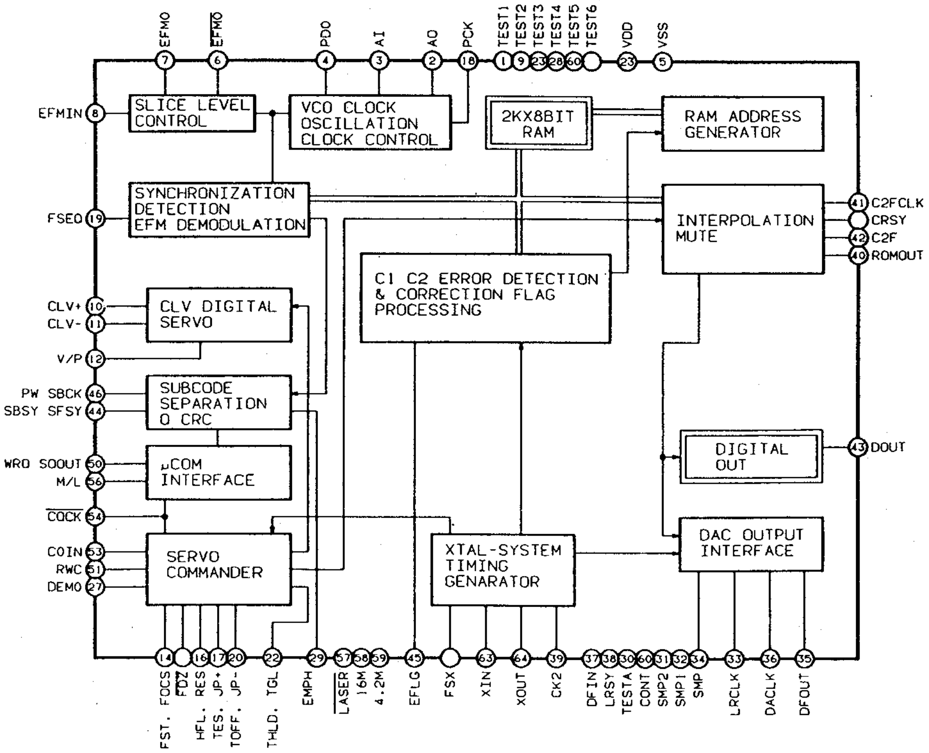
IN No.	SIGNAL NAME	PORT NAME	DESCRIPTION	I/O
1	CD MUTE	P41	Control Signal of Analogue Muting	O
2	P CONT	P40	Control Signal of Power Supply for CD Circuit	O
3	NC	P53	Not Used (Open)	O
4	FC	P52	Function Control C Signal	O
5	FB	P51	Function Control B Signal	O
6	FA	P50	Function Control A Signal	O
7	RESET	RESET	System Reset	I
8	X2	XO	X'tal Out (4.19 MHz)	O
9	X1	XI	X'tal In (4.19 MHz)	I
10	V CHK	P63	Detection Signal of the Stoppage Failure of Electricity	I
11	V DEC O	P62	Detection Signal Out of Voltage Drop	O
12	V DEC I	P61	Detection Signal In of Voltage Drop	I
13	TU MUTE	P60	Control Signal of Tuner Muting	O
14	NC	P73	Not Used (Ground)	I
15	NC	P72	Not Used (Ground)	I
16	DUB IN	P71	Dubbing Signal	I
17	TA AF	P70	Function Signal for Tape Deck	I
18	NC	P83	Not Used (Open)	O
19	NC	P82	Not Used (Open)	O
20	CLV GAIN	P81	Select Signal for CLV (Constant Linear Velocity) Gain	O
21	AMP SO	P80	Data Out to AD Micro Processor (μPD75512)	O
22	AMP SCK	P93	Clock Out to AD Micro Processor (μPD75512)	O
23	TRAY LED	P92	CD Tray Indicator LED	O
24	SUB SO	P91	Data Out to Sub Micro Processor (μPD73508)	O
25	SUB SCK	P90	Clock Out to Sub Micro Processor (μPD73508)	O
26	VSS	VSS	Ground	
27	SUB BUSY	P13 / INT3	Busy Signal In from Sub Micro Processor (μPD73508)	I
28	AMP BUSY	P12 / INT2	Busy Signal In from AD Micro Processor (μPD75512)	I
29	WRQ	P11 / INT1	DSP (Digital Signal Processor) Interface [Sub Q Request]	I
30	IR	P10 / INT0	Infrared Ray Receiving (Remocon) Signal	I
31	KEY3	PTH03	Key Input Signal	I
32	KEY2	PTH02	Key Input Signal	I
33	KEY1	PTH01	Key Input Signal	I
34	KEY0	PTH00	Key Input Signal	I
35	NC	TI0	Not Used (Open)	
36	NC	TI1	Not Used (Open)	
37	CLOSE	P23	Control Signal of Tray Close	O
38	CLK OUT	P22 / PCL	Clock Signal for Adjustment	O
39	OPEN	P21 / PT01	Control Signal of Tray Open	O
40	RWC	P20 / PT00	DSP (Digital Signal Processor) Interface [Command Latch]	O
41	SQOUT	P03 / SI	DSP (Digital Signal Processor) Interface [Sub Q Data]	I
42	COIN	P02 / SO	DSP (Digital Signal Processor) Interface [Command Data]	O
43	CQCK	P01 / SCK	DSP (Digital Signal Processor) Interface [Clock]	O
44	DRF	P00 / INT4	DRF Signal	I
45	OPN SW	P123	Switch Detection Signal for Open End of CD Tray	I
46	LIM SW	P122	Switch Detection Signal for Limit of Pickup	I
47	NC	P121	Not Used (Ground)	I
48	NC	P120	Not Used (Ground)	I
49	NC	P133	Not Used (Ground)	I
50	NC	P132	Not Used (Ground)	I
51	SW PRE	P131	Select Signal from ON / OFF Switch for Pre Muting	I
52	SW HI AC	P130	Select Signal from ON / OFF Switch for High Speed Access	I
53	SW DAC	P143	Select Signal from ON / OFF Switch for DAC (Digital to Analogue Converter)	I
54	SW BAND	P142	Select Signal from TU / BAND or FM Switch for Remocon Function	I
55	SW PST	P141	Select Signal from PST UP or SCAN Switch for Remocon Function	I
56	SW S D	P140	Select Signal from S / D Series Switch	I
57	NC	NC	Not Connection	
58	VDD	VDD	Power Supply +5V	
59	PULL UP	P33	Power supply to Pull Up Resistors	O
60	NC	P32	Not Used (Open)	O
61	DSP RES	P31	Reset Control Signal for DSP (Digital Signal Processor)	O
62	ATT	P30	DAC (Digital to Analogue Converter) Interface [Data]	O
63	SHIFT	P43	DAC (Digital to Analogue Converter) Interface [Clock]	O
64	LATCH	P42	DAC (Digital to Analogue Converter) interface [Latch]	O

IC BLOCK DIAGRAM (CD)

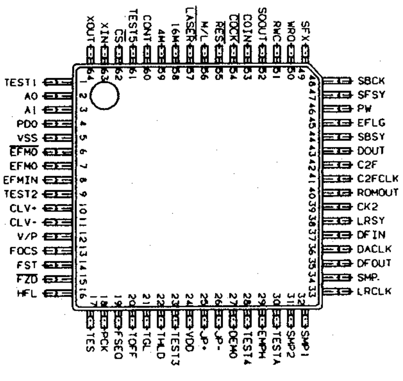
IC104 LC7866E (Digital Signal Processor)

No	PIN NAME	I/O	DESCRIPTION
1	TEST1	I	For TEST. Normal time is non connection.
2	AO	O	Input from VCO output in LA9210 .(8.6436MHz) Phase comparison output of VCO and EFM signal.
3	AI	I	
4	PDO	O	
5	VSS		GND
6	$\overline{\text{EFMO}}$	O	Negative output through amplitude limiter. Antiphase of EFMO. This signal use SLICE LEVEL CONTROL.
7	EFMO	O	Positive output through amplitude limiter. Antiphase of EFMO. This signal use SLICE LEVEL CONTROL.
8	EFMIN	I	Inputting HF signal of 1~2$V_{p.p}$. This signal use SLICE LEVEL CONTROL.
9	TEST2	I	For TEST. Normal time is non connection.
10	CLV⁺	O	Output for DISC MOTOR CONTROL.
11	CLV⁻	O	Output for DISC MOTOR CONTROL.
12	V/P	O	CLV rough Servo time : Output "H" Phase control time : Output"L"
13	FOCS	O	Output "H" : Lens pull up with slowly than stop the Focus Servo. If $\overline{\text{FZD}}$ generate, it reset output of FOCS. For lead-in of Focus
14	FST	O	
15	$\overline{\text{FZD}}$	I	
16	HFL	I	Comply with command of track jump, it oscillate kick Pulse, JP⁺ & JP⁻. It jump the prescribed number of track (1,4,16,64).
17	TES	I	Comply with command of track jump, it oscillate kick Pulse, JP⁺ & JP⁻. It jump the prescribed number of track (1,4,16,64).
18	PCK	O	PCK Monitor (4.3218MHz)
19	FSEQ	O	SYNC (FS of truth) detected from EFM signal = SYNC of counter : "H" (Latch Output during in 1 frame)
20	TOFF	O	Comply with command of track jump, it oscillate kick Pulse, JP⁺ & JP⁻. It jump the prescribed number of track (1,4,16,64).
21	TGL	O	
22	THLD	O	
23	TEST3	I	For TEST. Normal time is non connection.
24	VDD		+5V
25	JP⁺	O	Comply with command of track jump, it oscillate kick Pulse, JP⁺ & JP⁻. It jump the prescribed number of track (1,4,16,64).
26	JP⁻	O	
27	DEMO	I	For adjustment of production process. Sound on function.
28	TEST4	I	For TEST. Normal time is non connection.
29	EMPH	O	Output is "H" time, it need de-emphasis
30	TESTA	I	For TEST. Normal time is "H".

No	PIN NAME	I/O	DESCRIPTION
31	SMP2	O	Output of signal to DAC, Signal of Latch & L/R select, Signal for Sampling Hold
32	SMP1	O	
33	LRCLK	O	Output of signal to DAC, Signal of Latch & L/R select, Signal for Sampling Hold
34	SMP	O	
35	DFOUT	O	Output of signal to DAC, Signal of Latch & L/R select, Signal for Sampling Hold
36	DACLK	O	Output of signal to DAC, Signal of Latch & L/R select, Signal for Sampling Hold
37	TESTB	O	For TEST. Normal time is non connection.
38	TESTC	O	For TEST. Normal time is non connection.
39	CK2	O	For output of signal that Comply with CD-ROM
40	ROMOUT	O	For output of signal that Comply with CD-ROM
41	C2FLCK	O	For output of signal that Comply with CD-ROM
42	C2F	O	For output of signal that Comply with CD-ROM
43	DOUT	O	Output of DIGITAL OUT
44	SBSY	O	Synchronizing signal of sub-code block.
45	EFLG	O	For correction monitor of C1, C2, single, double.
46	PW	O	SFSY is Synchronizing signal of sub-code & frame. Clock of eighth send to SBCK then read out the sub-code of P, Q, R, S, T, U, V, & W.
47	SFSY	O	
48	SBCK	I	
49	FSX	O	Output of Synchronizing signal (7.35KHz)
50	WRQ	O	Data sub-code Q pass the CRC check then WRQ do "H". It detect at external, Data read out from SQOUT by send the $\overline{\text{CQCK}}$. RWC set the "H" by Micro Processor then it let command by send with Synchronizing CQCK command data.
51	RWC	I	
52	SQOUT	O	
53	COIN	I	
54	$\overline{\text{CQCK}}$	I	
55	RES	I	Turn on the Power Supply time : Once "L"
56	M/L	I	Data of SQOUT want at the LBS first time : M/L set the "L".
57	$\overline{\text{LASER}}$	O	This output can control at Serial Control from Micro Processor
58	16M	O	16M Output (16.9344MHz)
59	4M	O	4M Output (4.2336MHz)
60	CONT	O	This output can control at Serial Control from Micro Processor
61	TEST5	I	For TEST. Normal time is non connection.
62	CS	I	Chip select Terminal. This terminal "L" : LC7866 is active (Internal Resistor : Pull Down)
63	XIN	I	Connection Terminal of crystal oscillation (16.9344MHz)
64	XOUT	O	Connection Terminal of crystal oscillation (16.9344MHz)



EFMO
EFMO
PDO
AI
AO
PCK
TEST1 TEST2 TEST3 TEST4 TEST5 TEST6
VDD
VSS
EFMIN
SLICE LEVEL CONTROL
VCO CLOCK OSCILLATION CLOCK CONTROL
2KX8BIT RAM
RAM ADDRESS GENERATOR
FSEQ
SYNCHRONIZATION DETECTION EFM DEMODULATION
INTERPOLATION MUTE
C2FCLK
CRSY
C2F
ROMOUT
C1 C2 ERROR DETECTION & CORRECTION FLAG PROCESSING
CLV+
CLV-
CLV DIGITAL SERVO
V/P
PW SBCK
SBSY SFSY
SUBCODE SEPARATION Q CRC
WRQ SQOUT
M/L
μCOM INTERFACE
DIGITAL OUT
DOUT
CQCK
COIN
RWC
DEMO
SERVO COMMANDER
XTAL-SYSTEM TIMING GENARATOR
DAC OUTPUT INTERFACE
FST. FOCS
FZD
HFL. RES
TES. JP+
TOFF. JP-
THLD. TGL
EMPH
LASER
16M
4.2M
EFLG
FSX
XIN
XOUT
CK2
DFIN
LRSY
TESTA
CONT
SMP2
SMP1
SMP
LRCLK
DACLK
DFOUT



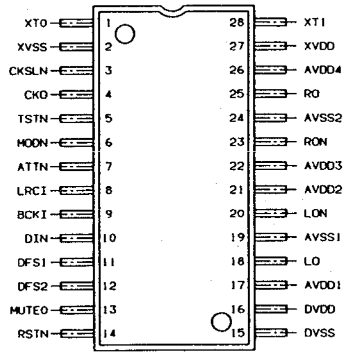
TEST1
AO
AI
PDO
VSS
EFMO
EFMO
EFMIN
TEST2
CLV+
CLV-
V/P
FOCS
FST
FZD
HFL
SBCK
SFSY
PW
EFLG
SBSY
DOUT
C2F
C2FCLK
ROMOUT
CK2
LRSY
DFIN
DACLK
DFOUT
SMP
LRCLK

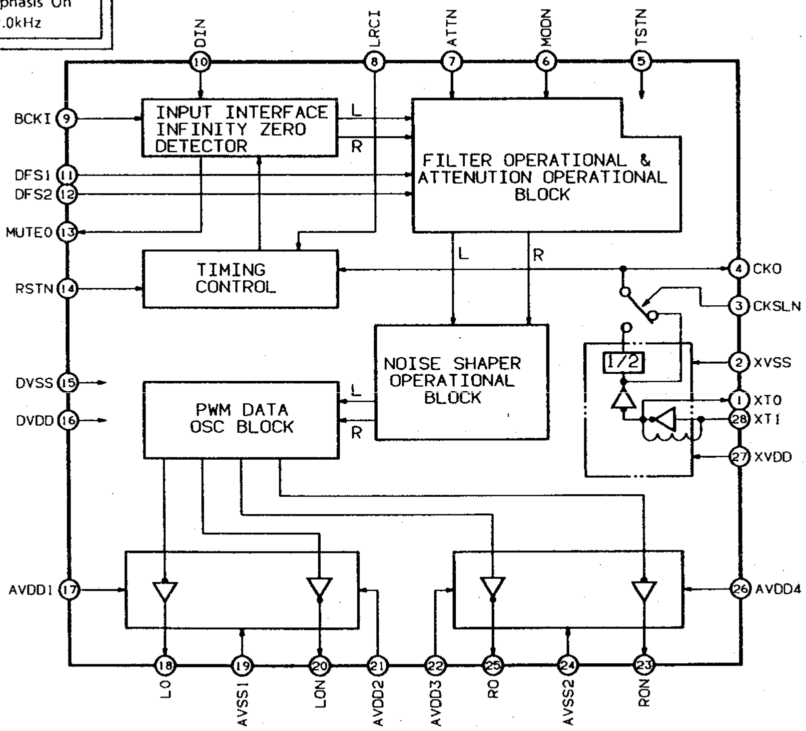
IC BLOCK DIAGRAM (CD)

IC105 SM5870DS (D / A Converter)

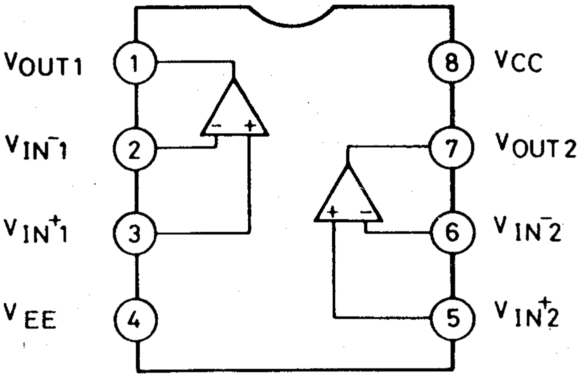
<table>
<tr><th>No.</th><th>PIN NAME</th><th>I / O</th><th>FUNCTION</th></tr>
<tr><td>1</td><td>XTO</td><td>O</td><td>Output Terminal of Oscillation</td></tr>
<tr><td>2</td><td>XVSS</td><td></td><td>GND Terminal of Crystal Route (0V)</td></tr>
<tr><td>3</td><td>CKSLN</td><td>I</td><td>Frequency Select of XTI, CKO</td></tr>
<tr><td>4</td><td>CKO</td><td>O</td><td>Oscillation Part, Output of Clock</td></tr>
<tr><td>5</td><td>TSTN</td><td>I</td><td>Test Terminal H = Normal, L = Test Mode</td></tr>
<tr><td>6</td><td>NODN</td><td>I</td><td rowspan="2"><table>
<tr><td rowspan="2">A
T
T
N</td><td></td><td colspan="2">MODN</td></tr>
<tr><td></td><td>H</td><td>L</td></tr>
<tr><td></td><td>H</td><td>Release</td><td rowspan="2">Soft Mute
Hold</td></tr>
<tr><td></td><td>L</td><td>Soft Mute</td></tr>
</table></td></tr>
<tr><td>7</td><td>ATTN</td><td>I</td></tr>
<tr><td>8</td><td>LRCI</td><td>I</td><td>Sample rate (fs) Clock of Input Data
H = L-ch L = R-ch</td></tr>
<tr><td>10</td><td>DIN</td><td>i</td><td>Bit Clock of Input Data</td></tr>
<tr><td>11</td><td>DFS1</td><td>I</td><td rowspan="2"><table>
<tr><td rowspan="2">D
S
F
2</td><td></td><td colspan="2">DSF1</td></tr>
<tr><td></td><td>L</td><td>H</td></tr>
<tr><td></td><td>L</td><td>De-Emphasis On
44.1kHz</td><td>De-Emphasis Off</td></tr>
<tr><td></td><td>H</td><td>De-Emphasis On
48.0kHz</td><td>De-Emphasis On
32.0kHz</td></tr>
</table></td></tr>
<tr><td>12</td><td>DFS2</td><td>I</td></tr>
</table>

No.	PIN NAME	I / O	FUNCTION
13	MOTEO	O	Output of nfinity Zero Detector
14	RSTN	I	System Reset H = Normal, L = Reset
15	DVSS		Digital GND Terminal (0V)
16	DVDD		Digital VDD Terminal (5V)
17	AVDD1		Analog VDD Terminal 1 (5V)
18	LO	O	PWM Output of L-channel (+)
19	AVSS1		Analog GND Terminal 1 (0V)
20	LON	O	PWM Output of L-channel (-)
21	AVDD2		Analog VDD Terminal 2 (5V)
22	AVDD3		Analog VDD Terminal 3 (5V)
23	RON	O	PWM Output of R-channel (-)
24	AVSS2		Analog GND Terminal 2 (0V)
25	RO	O	PWM Output of R-channel (+)
26	AVDD		Analog VDD Terminal 4 (5V)
27	XVDD		VDD Terminal of Crystal Route (5V)
28	XTI	I	Input Terminal of Oscillation


XTO 1
XVSS 2
CKSLN 3
CKO 4
TSTN 5
MODN 6
ATTN 7
LRCI 8
BCKI 9
DIN 10
DFS1 11
DFS2 12
MUTEO 13
RSTN 14
XTI 28
XVDD 27
AVDD4 26
RO 25
AVSS2 24
RON 23
AVDD3 22
AVDD2 21
LON 20
AVSS1 19
LO 18
AVDD1 17
DVDD 16
DVSS 15

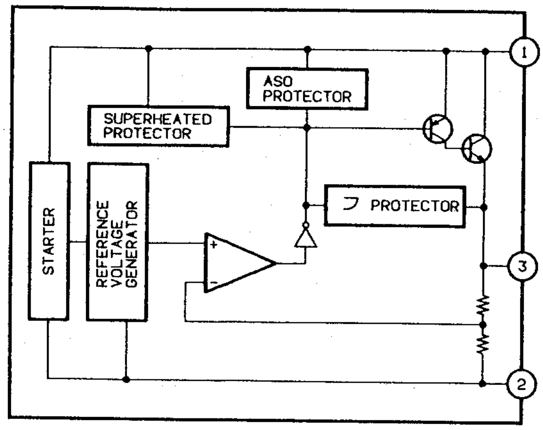

DIN 10
LRCI 8
ATTN 7
MODN 6
TSTN 5
BCKI 9
DFS1 11
DFS2 12
MUTEO 13
RSTN 14
DVSS 15
DVDD 16
AVDD1 17
INPUT INTERFACE INFINITY ZERO DETECTOR
L
R
FILTER OPERATIONAL & ATTENUTION OPERATIONAL BLOCK
L
R
TIMING CONTROL
NOISE SHAPER OPERATIONAL BLOCK
PWM DATA OSC BLOCK
L
R
1/2
4 CKO
3 CKSLN
2 XVSS
1 XTO
28 XTI
27 XVDD
26 AVDD4
18 LO
19 AVSS1
20 LON
21 AVDD2
22 AVDD3
25 RO
24 AVSS2
23 RON

IC106 XRA15218F (Dual Operational Amplifier)

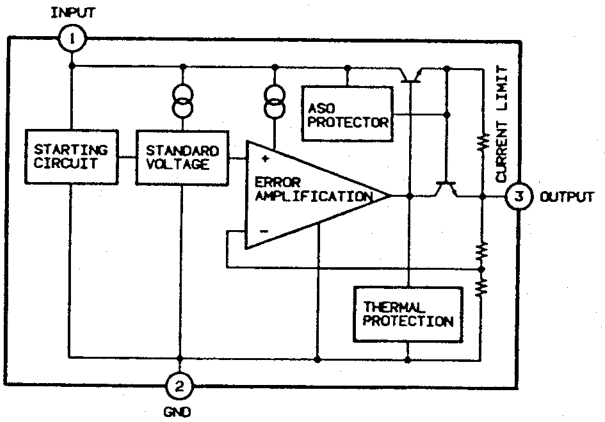

VOUT1 1
VIN-1 2
VIN+1 3
VEE 4
VCC 8
VOUT2 7
VIN-2 6
VIN+2 5
-
+
+
-

IC BLOCK DIAGRAM (CD & TUNER)

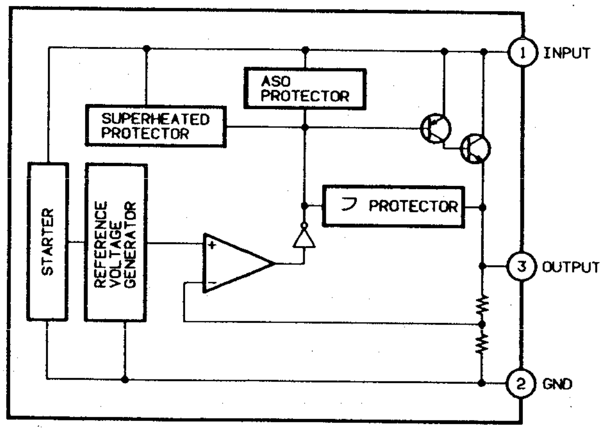
IC107 M5278D05 (3 Terminal Voltage Regulator)


1 INPUT
ASO PROTECTOR
SUPERHEATED PROTECTOR
STARTER
REFERENCE VOLTAGE GENERATOR
ꓷ PROTECTOR
+
-
3 OUTPUT
2 GND

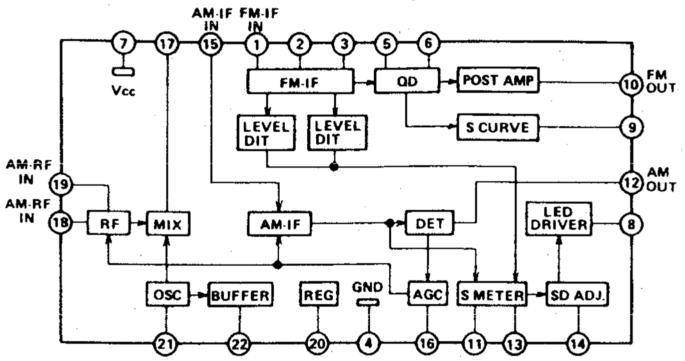
IC108 NJM79L05 (3-Terminal Voltage Regulator)


INPUT
1
ASO PROTECTOR
STARTING CIRCUIT
STANDARD VOLTAGE
+
ERROR AMPLIFICATION
-
CURRENT LIMIT
3 OUTPUT
THERMAL PROTECTION
2
GND

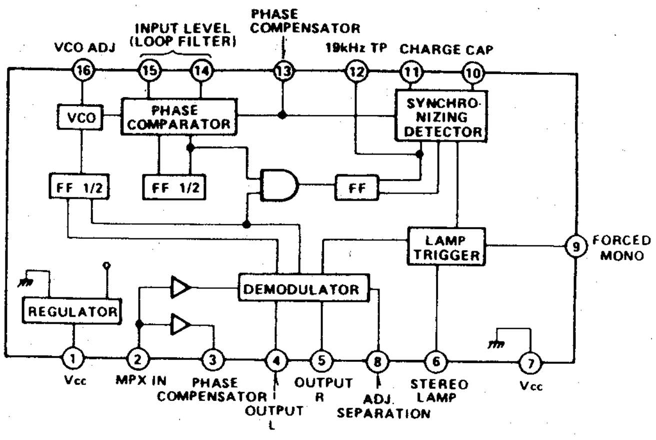
IC109 NJM78L05 (3-Terminal Voltage Regulator)


1 INPUT
ASO PROTECTOR
SUPERHEATED PROTECTOR
STARTER
REFERENCE VOLTAGE GENERATOR
ꓷ PROTECTOR
+
-
3 OUTPUT
2 GND

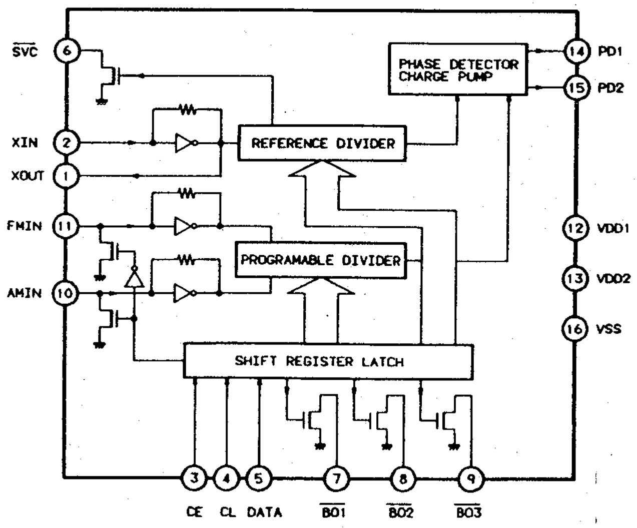
IC201 LA2165 (Tuner IF System)


AM-IF IN
FM-IF IN
7
17
15
1
2
3
5
6
Vcc
FM-IF
QD
POST AMP
10 FM OUT
LEVEL DIT
LEVEL DIT
S CURVE
9
AM-RF IN 19
AM-RF IN 18
12 AM OUT
RF
MIX
AM-IF
DET
LED DRIVER
8
OSC
BUFFER
REG
GND
AGC
S METER
SD ADJ.
21
22
20
4
16
11
13
14

IC202 LA3361 (FM PLL MPX. Stereo Demodulator)


PHASE COMPENSATOR
INPUT LEVEL (LOOP FILTER)
VCO ADJ
19kHz TP
CHARGE CAP
16
15
14
13
12
11
10
VCO
PHASE COMPARATOR
SYNCHRONIZING DETECTOR
FF 1/2
FF 1/2
FF
LAMP TRIGGER
9 FORCED MONO
REGULATOR
DEMODULATOR
1
2
3
4
5
8
6
7
Vcc
MPX IN
PHASE COMPENSATOR
OUTPUT L
OUTPUT R
ADJ. SEPARATION
STEREO LAMP
Vcc

IC203 LM7001 (PLL Frequency Synthesizer)


SVC 6
PHASE DETECTOR CHARGE PUMP
14 PD1
15 PD2
XIN 2
XOUT 1
REFERENCE DIVIDER
FMIN 11
12 VDD1
PROGRAMABLE DIVIDER
13 VDD2
AMIN 10
16 VSS
SHIFT REGISTER LATCH
3
4
5
7
8
9
CE
CL
DATA
BO1
BO2
BO3

IC BLOCK DIAGRAM (FRONT)

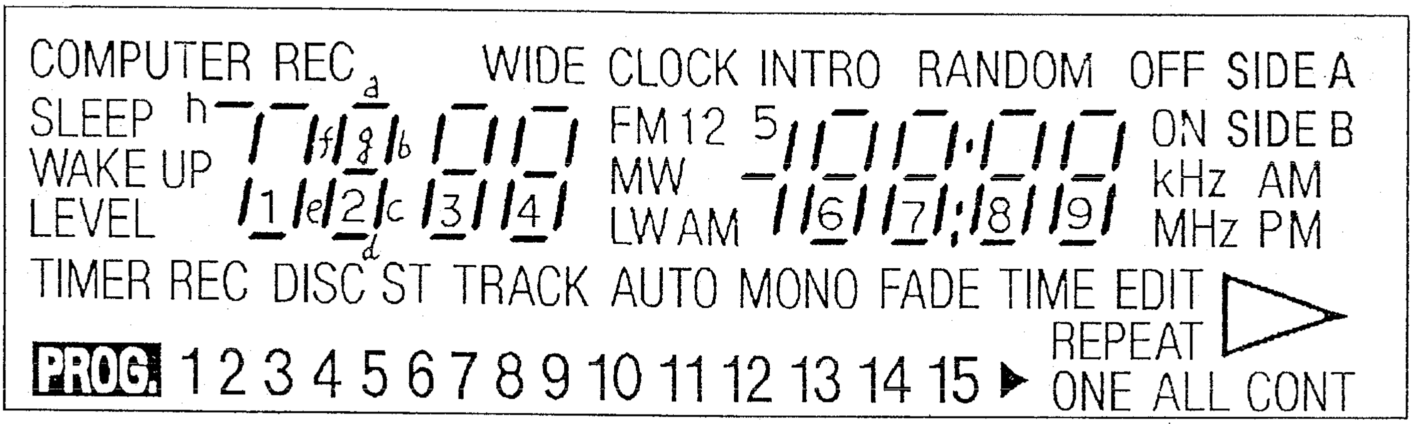
IC251 μPD75306GF-225-3B9 (Tuner & LCD Driveing Micro Processor)

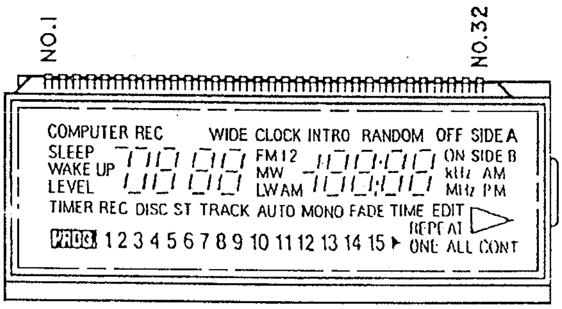
PIN No.	SIGNAL NAME	PORT NAME	DESCRIPTION	I/O	CONNECT
1	SEG12	S12	Segment of Liquid Crystal Display		LCD
2	SEG13	S13	Segment of Liquid Crystal Display		LCD
3	SEG14	S14	Segment of Liquid Crystal Display		LCD
4	SEG15	S15	Segment of Liquid Crystal Display		LCD
5	SEG16	S16	Segment of Liquid Crystal Display		LCD
6	SEG17	S17	Segment of Liquid Crystal Display		LCD
7	SEG18	S18	Segment of Liquid Crystal Display		LCD
8	SEG19	S19	Segment of Liquid Crystal Display		LCD
9	SEG20	S20	Segment of Liquid Crystal Display		LCD
10	SEG21	S21	Segment of Liquid Crystal Display		LCD
11	SEG22	S22	Segment of Liquid Crystal Display		LCD
12	SEG23	S23	Segment of Liquid Crystal Display		LCD
13	SEG24	S24 / BP0	Segment of Liquid Crystal Display		LCD
14	SEG25	S25 / BP1	Segment of Liquid Crystal Display		LCD
15	SEG26	S26 / BP2	Segment of Liquid Crystal Display		LCD
16	SEG27	S27 / BP3	Segment of Liquid Crystal Display		LCD
17	AUTO	S28 / BP4	Auto Tuning Signal ACTIVE : HIGH LEVEL	O	TUNER
18	NC	S29 / BP5	Not Used (Open)	O	OPEN
19	NC	S30 / BP6	Not Used (Open)	O	OPEN
20	NC	S31 / BP7	Not Used (Open)	O	OPEN
21	COM 0	COM0	Common of Liquid Crystal Display		LCD
22	COM 1	COM1	Common of Liquid Crystal Display		LCD
23	COM 2	COM2	Common of Liquid Crystal Display		LCD
24	COM 3	COM3	Common of Liquid Crystal Display		LCD
25	BIAS	BIAS	Bias of Liquid Crystal Display		
26	VLC0	V_{LC0}	Power Supply for Drive of Liquid Crystal Display		
27	VLC1	V_{LC1}	Power Supply for Drive of Liquid Crystal Display		
28	VLC2	V_{LC2}	Power Supply for Drive of Liquid Crystal Display		
29	STEP	P40	AM Step Selection 9kHz (V_{DD}) / 10kHz (V_{SS})	I	TUNER
30	ST	P41	ST Signal ACTIVE : LOW LEVEL	I	TUNER
31	SD	P42	SD Signal ACTIVE : LOW LEVEL	I	TUNER
32	NC	P43	Not Used (Ground)	I	V_{SS}
33	VSS	V_{SS}	Ground		
34	CE (S)	P50	Data Signal from LM7001 (For S Series)	O	TUNER
35	CLK (S)	P51	Data Signal from LM7001 (For S Series)	O	TUNER
36	DO (S)	P52	Data Signal from LM7001 (For S Series)	O	TUNER
37	MONO (S)	P53	Compulsion Monaural (For S Series) ACTIVE : HIGH LEVEL	O	TUNER
38	NC	P00 / INT4	Not Used (Ground)	I	V_{SS}
39	SCK	P01 / SCK	Clock Signal In from Main Micro Processor (μPD65117)	I	MAIN μCON
40	NC	P02 / SO / SB0	Not Used (Ground)		V_{SS}
41	SI	P03 / SI / SB1	Data In from Main Micro Processor (μPD65117)	I	MAIN μCON
42	NC	P10 / INT0	Not Used (Ground)	I	V_{SS}
43	NC	P11 / INT1	Not Used (Ground)	I	V_{SS}
44	NC	P12 / INT2	Not Used (Ground)	I	V_{SS}
45	NC	P13 / T10	Not Used (Ground)	I	V_{SS}
46	WIDE	P20 / PT100	Select Signal for AM Signal Type Wide (HIGH) / Narrow (LOW)	O	TUNER
47	PCON (S)	P21	Tuner Power Signal (For S Series) ACTIVE : HIGH LEVEL	O	TUNER
48	MUTE	P22 / PCL	Tuner Mute Signal ACTIVE : HIGH LEVEL	O	TUNER
49	BUSY	P23 / BUZ	Busy Signal Out to Main Micro Processor (μPD65117)	O	MAIN μCON
49	BUSY	P23 / BUZ	Busy Signal Out to Main Micro Processor (μPD65117)	O	MAIN μCON
50	S0	P30 / LCDCL	Initial Set for User = Country (Open or Ground)	I	
51	S1	P31 / SYNC	Initial Set for User = Country (Open or Ground)	I	
52	S2	P32	Initial Set for User = Country (Open or Ground)	I	
53	S3 (FM MUTE)	P33	Select Signal for FM Auto Mute SET (Open) / NOT (V_{SS})	I	
54	VDD	V_{DD}	Power Supply +5V		V_{DD}
55	NC	XT1	Not Used (Ground) OSC X'tal Terminal for Main Clock	I	V_{SS}
56	NC	XT2	Not Used (Open) OSC X'tal Terminal for Main Clock	O	
57	NC	NC	Non Connection		
58	X1	XI	X'tal In (4.194304 MHz)	I	
59	X2	XO	X'tal Out (4.194304 MHz)	O	
60	S4 (12H / 24H)	P60 / KR0	Select Signal for CLOCK 24H (Open) / 12H (V_{SS})	I	
61	S5 (AM IF)	P61 / KR1	Select Signal for AM IF SET (Open) / NOT (V_{SS})	I	TUNER
62	S6 (D / S)	P62 / KR2	Select Signal for D & S Series SET (Open) / NOT (V_{SS})	I	
48	MUTE	P22 / PCL	Tuner Mute Signal ACTIVE : HIGH LEVEL	O	TUNER
63	MONO (D)	P63 / KR3	Compulsion Monaural (For D Series) ACTIVE : HIGH LEVEL	O	TUNER
64	DO (D)	P70 / KR4	Data Signal from LM7001 (For D Series)	O	TUNER
65	CLK (D)	P71 / KR5	Data Signal from LM7001 (For D Series)	O	TUNER

IC BLOCK DIAGRAM (FRONT)

PIN No.	SIGNAL NAME	PORT NAME	DESCRIPTION	I/O	CONNECT
66	CE (D)	P72 / KR6	Data Signal from LM7001 (For D Series)	O	TUNER
67	PCON (D)	P73 / KR7	Tuner Power Signal (For D Series) ACTIVE : HIGH LEVEL	O	TUNER
68	RESET	RESET	System Reset Signal		RESET CIRCUIT
69	SEG0	S0	Segment of Liquid Crystal Display		LCD
70	SEG1	S1	Segment of Liquid Crystal Display		LCD
71	SEG2	S2	Segment of Liquid Crystal Display		LCD
72	SEG3	S3	Segment of Liquid Crystal Display		LCD
73	SEG4	S4	Segment of Liquid Crystal Display		LCD
74	SEG5	S5	Segment of Liquid Crystal Display		LCD
75	SEG6	S6	Segment of Liquid Crystal Display		LCD
76	SEG7	S7	Segment of Liquid Crystal Display		LCD
77	SEG8	S8	Segment of Liquid Crystal Display		LCD
78	SEG9	S9	Segment of Liquid Crystal Display		LCD
79	SEG10	S10	Segment of Liquid Crystal Display		LCD
80	SEG11	S11	Segment of Liquid Crystal Display		LCD

LCD


COMPUTER REC
WIDE CLOCK INTRO RANDOM OFF SIDE A
SLEEP
WAKE UP
LEVEL
a
h
f
g
b
e
c
d
1
2
3
4
FM 12 5
MW
LWAM
6
7
8
9
ON SIDE B
kHz AM
MHz PM
TIMER REC DISC ST TRACK AUTO MONO FADE TIME EDIT
REPEAT
PROG.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
ONE ALL CONT


NO.1
NO.32
COMPUTER REC
WIDE CLOCK INTRO RANDOM OFF SIDE A
SLEEP
WAKE UP
LEVEL
FM 12
MW
LWAM
ON SIDE B
kHz AM
MHz PM
TIMER REC DISC ST TRACK AUTO MONO FADE TIME EDIT
REPEAT
PROG.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
ONE ALL CONT

NO.	COM. 1	COM. 2	COM. 3	COM. 4
1	CONT	ALL	ONE	REPEAT
2	13	14	15	▶
3	12	11	10	9
4	5	6	7	8
5	4	3	2	1
6	SLEEP	WAKE UP	TIMER	REC
7	COMP. REC	LEVEL	DISC	PROG.
8	1h	1a.e.f	1b.c	1d
9	2f	2g	2e	2d
10	2a	2b	2c	ST
11	3f	3g	3e	3d
12	3a	3b	3c	TRACK
13	4f	4g	4e	4d
14	4a	4b	4c	AUTO
15	WIDE	FM	MW	LW
16	CLOCK	1 (FM)	2 (FM)	AM

NO.	COM. 1	COM. 2	COM. 3	COM. 4
17	INTRO	5b.c	5g	
18	6f	6g	6e	6d
19	6a	6b	6c	MONO
20	7f	7g	7e	7d
21	7a	7b	7c	FADE
22	RANDM	.:	.	TIME
23	8f	8g	8e	8d
24	8a	8b	8c	EDIT
25	9f	9g	9e	9d
26	9a	9b	9c	▷
27	OFF	ON	KHz	MHz
28	DISE A	DISE B	AM	PM
29	COM. 1			
30		COM. 2		
31			COM. 3	
32				COM. 4

VOLTAGES OF IC (CD)

(Unit : Volt)

IC101 LA9210M

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Stop Mode	0	-5.0	0	0	0	0	0	0	0	2.59	2.54	2.55	0	0	0	0
Play Mode	0	-5.0	Fluc	Fluc	Fluc	Fluc	Fluc	0	0	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc
Measuring Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Stop Mode	0	0	0	0	Fluc	Fluc	0	0	0	0	Fluc	2.43	0	0	0	-5.0
Play Mode	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	0	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	-5.0
Measuring Pin No.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Stop Mode	0	0	0	5.0	4.39	0	0	0	0	0	0	0	4.97	4.92	4.07	4.07
Play Mode	Fluc	Fluc	Fluc	5.0	Fluc	Fluc	Fluc	Fluc	0	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc
Measuring Pin No.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Stop Mode	4.07	0	0	0	2.52	2.49	2.50	5.0	2.51	2.51	2.54	3.92	2.60	2.33	4.92	0
Play Mode	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	5.0	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	0
Measuring Pin No.	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Stop Mode	0	0.4	-0.4	0	-0.5	-0.5	0	-0.5	0	4.82	-4.97	4.83	5.0	0	0	0
Play Mode	0	Fluc	Fluc	Fluc	Fluc	Fluc	0	Fluc	Fluc	Fluc	Fluc	Fluc	5.0	Fluc	Fluc	0

IC102 LA6524

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10
Play Mode	Fluc	Fluc	-11	Fluc	Fluc	Fluc	Fluc	10	Fluc	Fluc

Fluc : Fluctuation

IC103 μPD75116

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Stop Mode	0			(0)	(0)	(0)										(0)
Play Mode	4.8	5.0	0	(5.0)	(5.0)	(5.0)	5.0	2.5	2.5	4.7	5.0	5.0	0	0	0	(4.8)
Measuring Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Stop Mode							(0)	0								
Play Mode	0	0	0	0	0	5.0	(5.0)	Fluc	2.5	0	4.7	4.8	0	5.0	5.0	5.0
Measuring Pin No.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Stop Mode					(0)		(5.0)					0				
Play Mode	5.0	5.0	0	0	(5.0)	0	(0)	0	0	0	5.0	4.0	5.0	5.0	0	0
Measuring Pin No.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Stop Mode													(0)			0
Play Mode	0	0	0	0	0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	(5.0)	0	5.0	5.0

NOTES :

PIN 4 : Stop Mode = OTHER
Play Mode = TAPE & TUNER

PIN 5 : Stop Mode = OTHER
Play Mode = CD & PHONO

PIN 6 : Stop Mode = OTHER
Play Mode = TUNER, AV & CD

PIN 16 : Stop Mode = OTHER
Play Mode = WAIT THE SYNCRO

PIN 23 : Stop Mode = ON THE DISC
Play Mode = ON THE NO DISC

PIN 37 : Stop Mode = OTHER
Play Mode = CLOSING THE TRAY

PIN 39 : Stop Mode = OTHER
Play Mode = OPENING THE TRAY

PIN 62 : Stop Mode = EMPHASIS ON
Play Mode = EMPHASIS OFF

IC104 LC7866E

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Stop Mode	0	2.31	2.34	2.51	0	2.46	2.48	2.52	0	0	0	4.92	0	2.51	4.07	4.07
Play Mode	Fluc	Fluc	Fluc	Fluc	0	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc
Measuring Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Stop Mode	4.07	2.5	0	4.95	4.97	0	0	5.0	0	0	0	0	0	5.0	1.25	1.25
Play Mode	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	5.0	Fluc	Fluc	Fluc	Fluc	Fluc	5.0	Fluc	Fluc
Measuring Pin No.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Stop Mode	2.5	2.5	0	2.5	0	2.5	2.41	1.63	2.5	4.5	2.52	Fluc	2.28	0	2.5	0
Play Mode	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	0(4.5)	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc
Measuring Pin No.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Stop Mode	2.5	Fluc	Fluc	Fluc	0	5.0	4.48	0	4.92	Fluc	2.33	4.93	0	0	2.28	2.47
Play Mode	Fluc	Fluc	Fluc	Fluc	0	5.0	Fluc	0	Fluc	Fluc	Fluc	Fluc	Fluc	0	Fluc	Fluc

IC105 SM5870DS

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Play Mode	3.0	0	0	0	5.0	5.0	5.0	2.5	2.4	1.6	5.0	0	0	4.8	0	5.0
Measuring Pin No.	17	18	19	20	21	22	23	24	25	26	27	28				
Play Mode	5.0	2.4	0	2.4	5.0	5.0	2.4	0	2.4	5.0	5.0	1.3				

IC106 XRA15218F

Measuring Pin No.	1	2	3	4	5	6	7	8
Play Mode	Fluc	1.3	1.3	-5.0	1.3	1.3	Fluc	5.0

VOLTAGES OF IC & TRANSISTOR (CD)

Transistor No.	IC107			IC108			IC109		
Measuring Pin Name	1 (OUT)	2 (GND)	3 (IN)	1 (COM)	2 (IN)	3 (OUT)	1 (OUT)	2 (GND)	3 (IN)
Stop Mode	5.0	0	11	-11.5	0	-5.0	5.6	0.6	12
Play Mode	5.0	0	10	-11.5	0	-5.0	5.6	0.6	12

TRANSISTOR

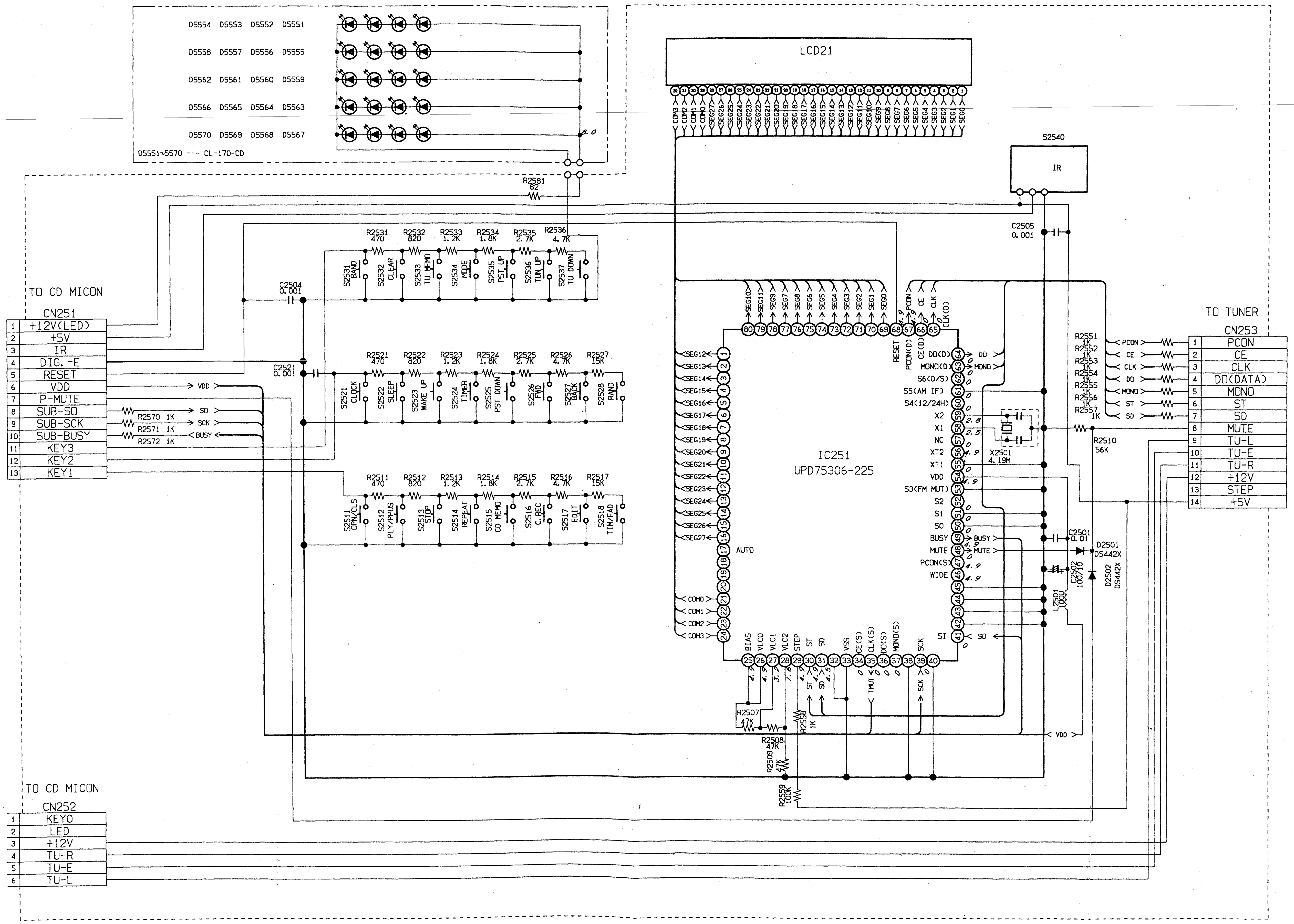
(Unit : Volt)

Transistor No.	Q101			Q102			Q103			Q1301		
Measuring Pin Name	E	C	B	E	C	B	E	C	B	E	C	B
Stop Mode	5.0	0	4.7	2.0	2.5	2.5	0	0	0.6			
Play Mode	3.6	1.8	3.0				0	4.9	0	5.0	5.0	0

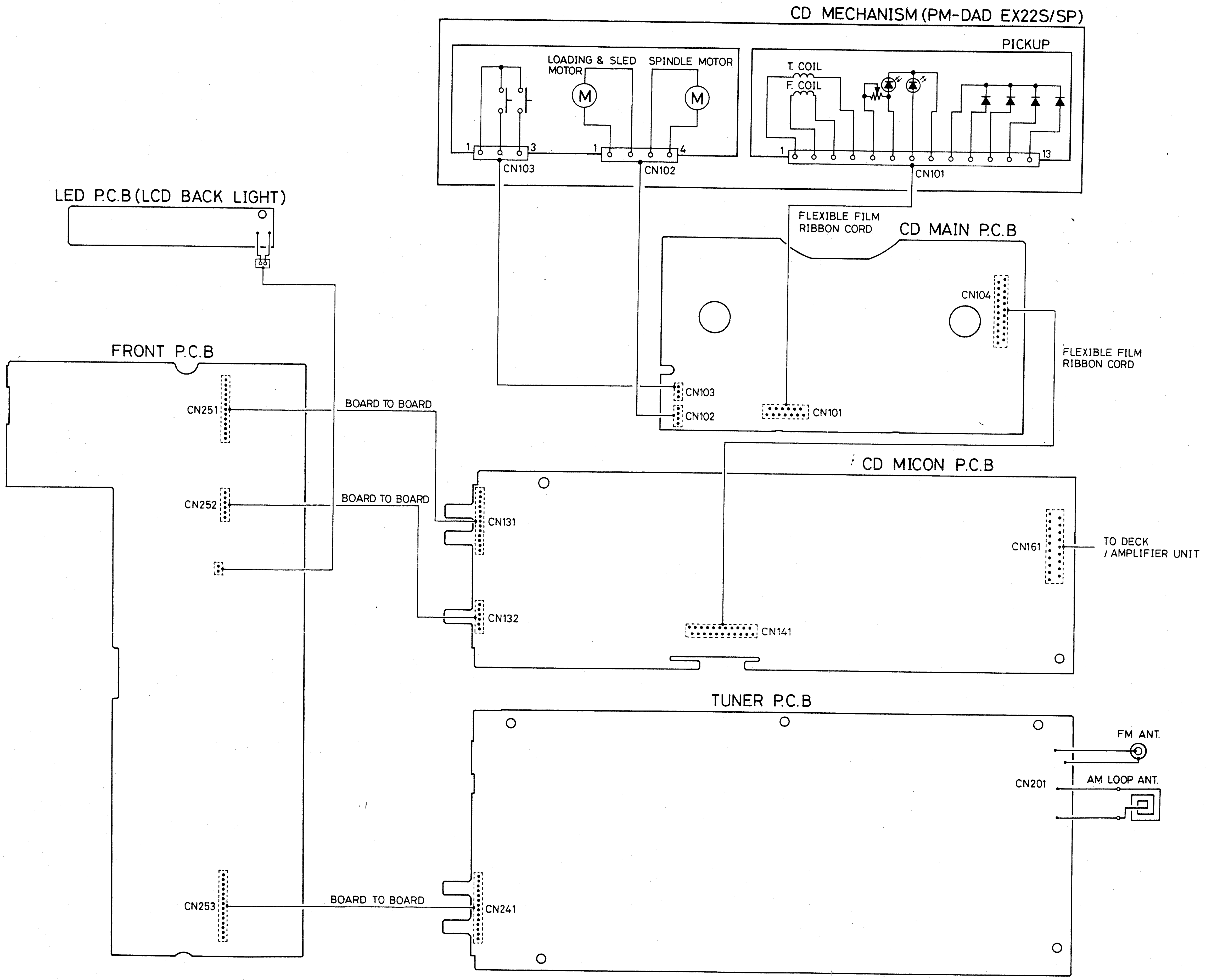
Transistor No.	Q1302			Q1303			Q1304			Q1305		
Measuring Pin Name	E	C	B	E	C	B	E	C	B	E	C	B
Stop Mode				4.8	4.8	0	0	0	0.6	5.0	5.0	4.3
Play Mode	0	5.0	0	0	-5.0	0	0	0	0.6	5.0	5.0	4.3

Transistor No.	Q1500			Q1501		
Measuring Pin Name	E	C	B	E	C	B
Stop Mode	0	0	0.6	0	0	0.6
Play Mode	0	0	-5.0	0	0	-5.0

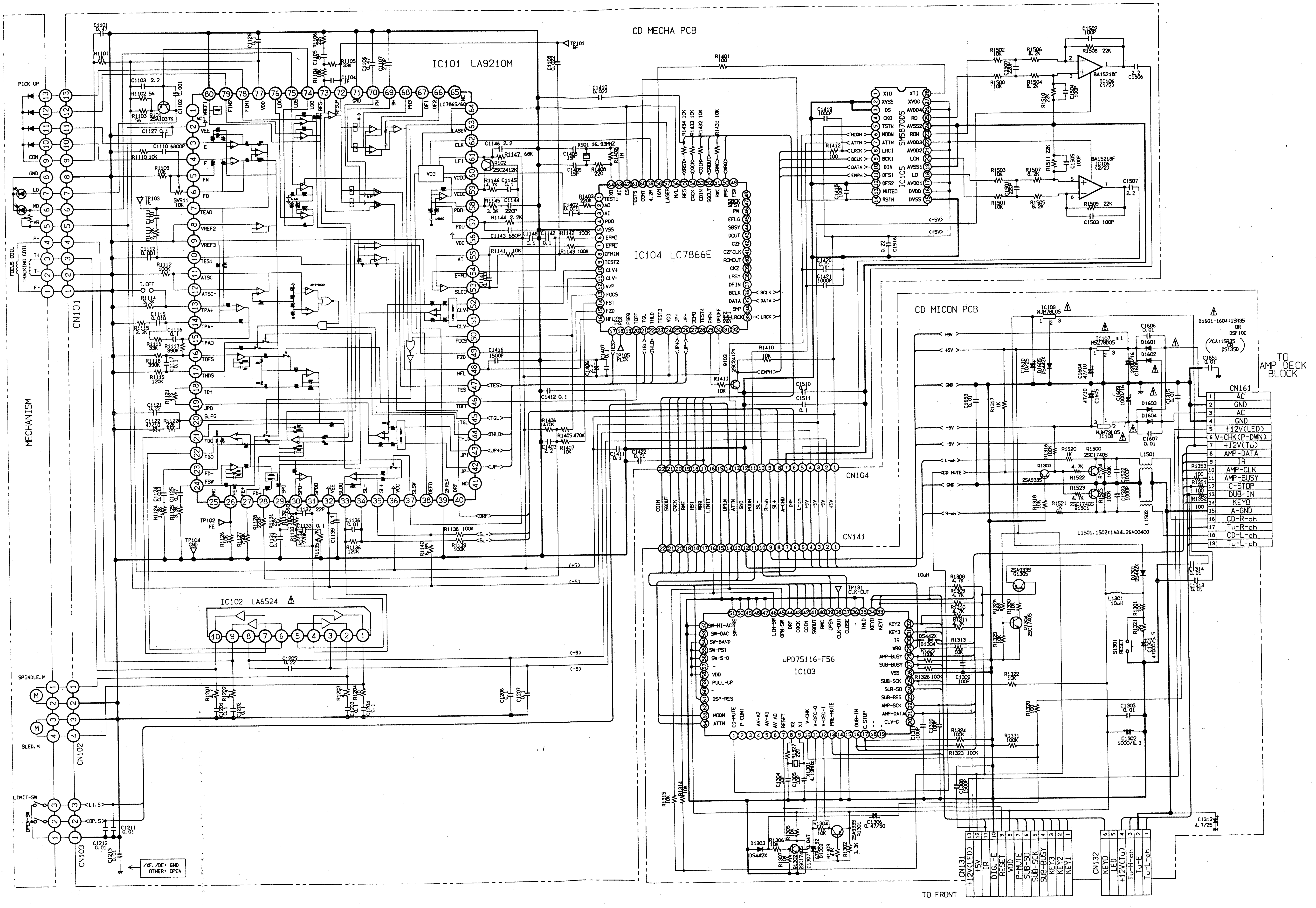
SCHEMATIC DIAGRAM (FRONT)


D5554 D5553 D5552 D5551
D5558 D5557 D5556 D5555
D5562 D5561 D5560 D5559
D5566 D5565 D5564 D5563
D5570 D5569 D5568 D5567
D5551~5570 --- CL-170-CD
LCD21
S2540
IR
R2581 82
C2505 0.001
R2531 470
R2532 820
R2533 1.2K
R2534 1.8K
R2535 2.7K
R2536 4.7K
S2531 BAND
S2532 CLEAR
S2533 TU MEMO
S2534 MODE
S2535 PST UP
S2536 TUN UP
S2537 TU DOWN
C2504 0.001
TO CD MICON
CN251
+12V(LED)
+5V
IR
DIG.-E
RESET
VDD
P-MUTE
SUB-SO
SUB-SCK
SUB-BUSY
KEY3
KEY2
KEY1
R2570 1K
R2571 1K
R2572 1K
VDD
SO
SCK
BUSY
C2521 0.001
R2521 470
R2522 820
R2523 1.2K
R2524 1.8K
R2525 2.7K
R2526 4.7K
R2527 15K
S2521 CLOCK
S2522 SLEEP
S2523 WAKE UP
S2524 TIMER
S2525 PST DOWN
S2526 FWD
S2527 BACK
S2528 RAND
R2511 470
R2512 820
R2513 1.2K
R2514 1.8K
R2515 2.7K
R2516 4.7K
R2517 15K
S2511 OPN/CLS
S2512 PLY/PPUS
S2513 STOP
S2514 REPEAT
S2515 CD MEMO
S2516 C.REC
S2517 EDIT
S2518 TIM/FAD
IC251
UPD75306-225
RESET
PCON(D)
CE(D)
CLK(D)
DO(D)
MONO(D)
S6(D/S)
S5(AM IF)
S4(12/24H)
X2
X1
NC
XT2
XT1
VDD
S3(FM MUT)
S2
S1
SO
BUSY
MUTE
PCON(S)
WIDE
SI
AUTO
BIAS
VLC0
VLC1
VLC2
STEP
ST
SD
VSS
CE(S)
CLK(S)
DO(S)
MONO(S)
SCK
TMUT
COM0
COM1
COM2
COM3
X2501 4.19M
R2510 56K
C2501 0.01
D2501 DS442X
C2502 100/10
D2502 DS442X
L2501 100U
R2507 47K
R2508 47K
R2509 47K
R2558 1K
R2559 100K
R2551 1K
R2552 1K
R2553 1K
R2554 1K
R2555 1K
R2556 1K
R2557 1K
TO TUNER
CN253
PCON
CE
CLK
DO(DATA)
MONO
ST
SD
MUTE
TU-L
TU-E
TU-R
+12V
STEP
+5V
TO CD MICON
CN252
KEY0
LED
+12V
TU-R
TU-E
TU-L

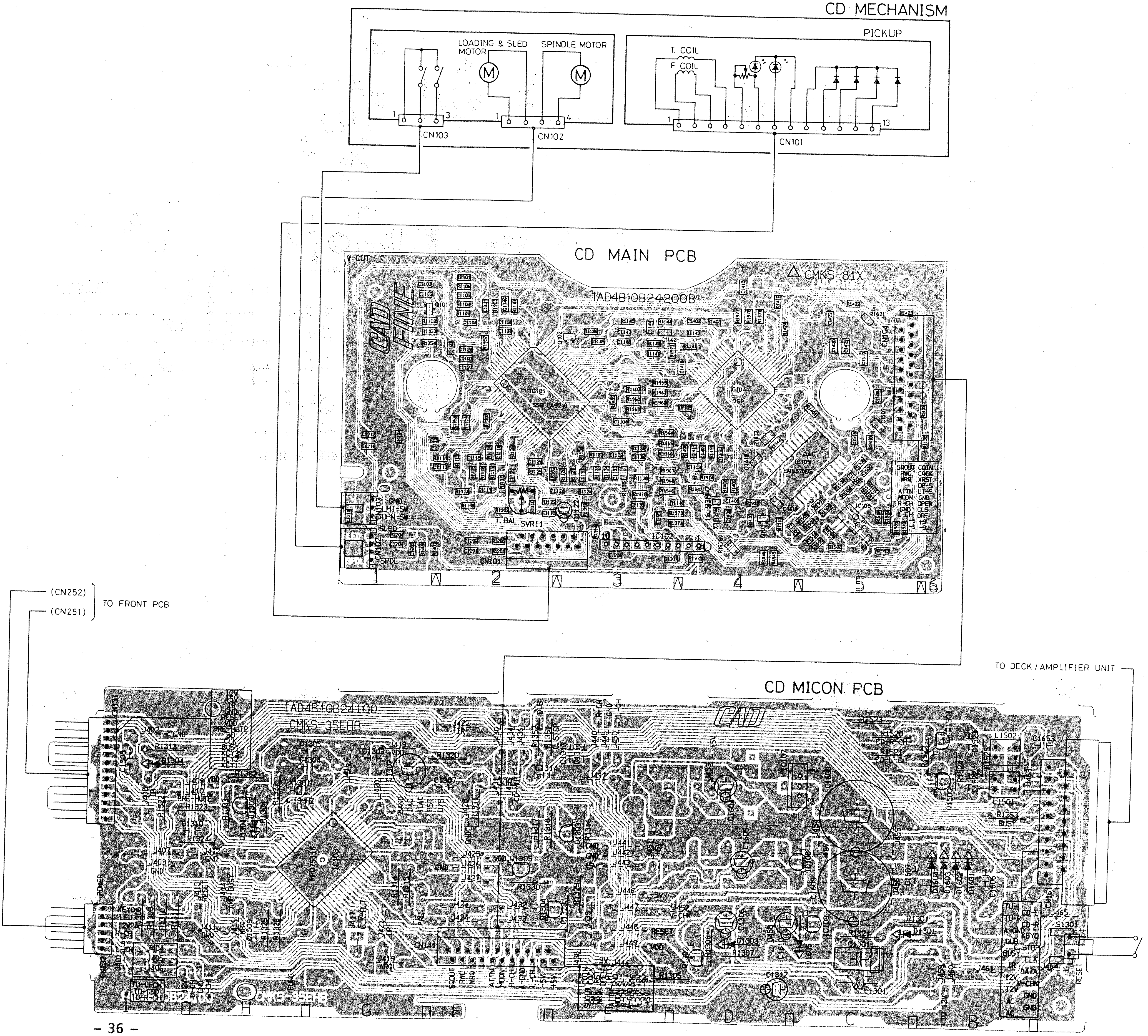
WIRING CONNECTION (TUNER / CD UNIT)


CD MECHANISM (PM-DAD EX22S/SP)
PICKUP
LOADING & SLED MOTOR
SPINDLE MOTOR
M
M
T. COIL
F. COIL
1
3
1
4
1
13
CN103
CN102
CN101
LED P.C.B (LCD BACK LIGHT)
FLEXIBLE FILM RIBBON CORD
CD MAIN P.C.B
CN104
FLEXIBLE FILM RIBBON CORD
CN103
CN102
CN101
FRONT P.C.B
CN251
BOARD TO BOARD
CN252
BOARD TO BOARD
CD MICON P.C.B
CN131
CN132
CN141
CN161
TO DECK / AMPLIFIER UNIT
TUNER P.C.B
FM ANT.
CN201
AM LOOP ANT.
CN253
BOARD TO BOARD
CN241

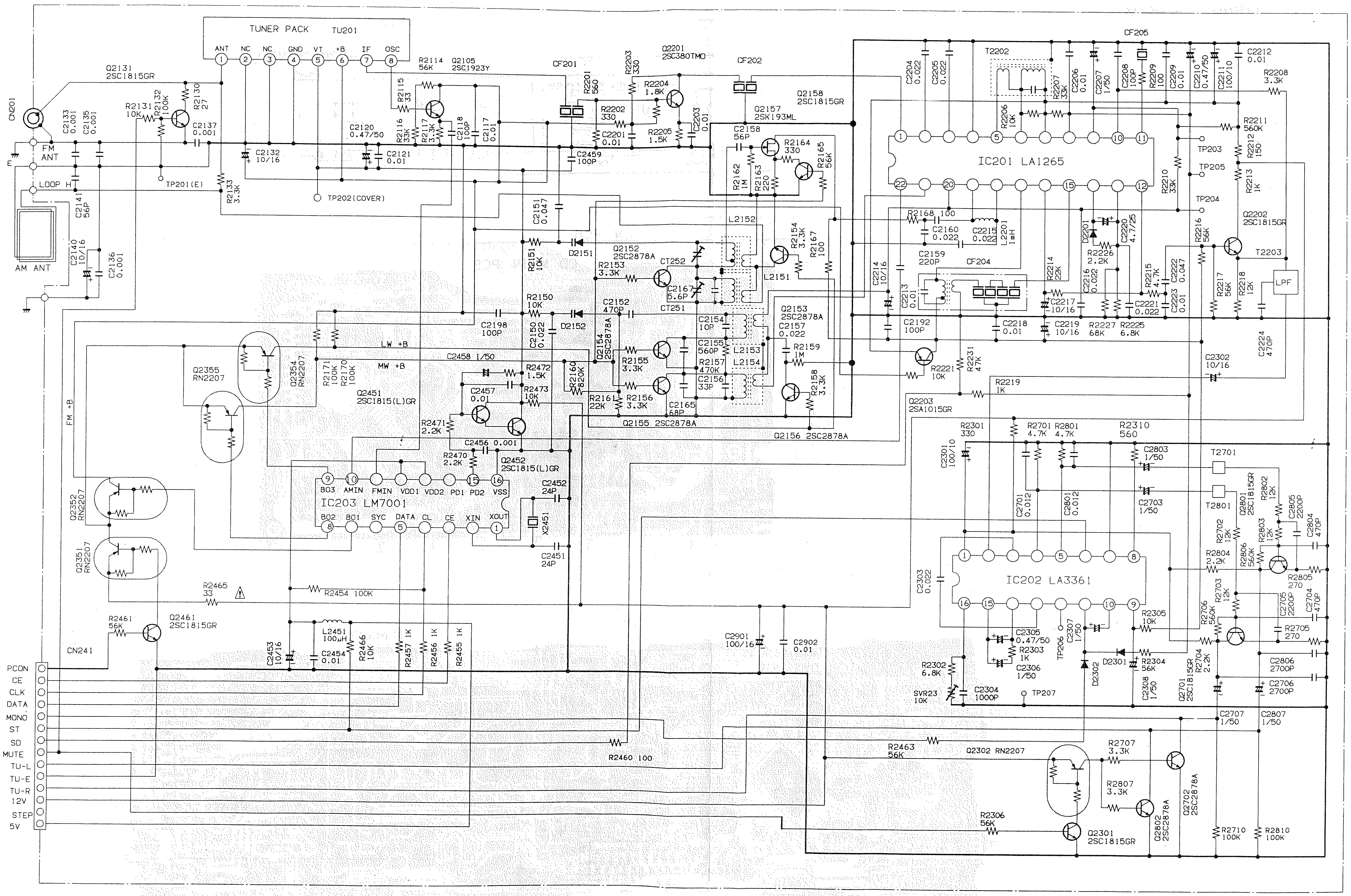
SCHEMATIC DIAGRAM (CD)


CD MECHA PCB
CD MICON PCB
MECHANISM
PICK UP
FOCUS COIL
TRACKING COIL
CN101
IC101 LA9210M
IC104 LC7866E
IC105 SM5870DS
X101 16.9344MHz
BA15218F IC106 (1/2)
BA15218F IC106 (2/2)
IC102 LA6524
SPINDLE.M
SLED.M
CN102
LIMIT-SW
OPEN-SW
CN103
/XE, /DE: GND OTHER: OPEN
CN104
CN141
uPD75116-F56
IC103
TO AMP DECK BLOCK
CN161
1 AC
2 GND
3 AC
4 GND
5 +12V(LED)
6 V-CHK(P-DWN)
7 +12V(Tu)
8 AMP-DATA
9 IR
10 AMP-CLK
11 AMP-BUSY
12 C-STOP
13 DUB-IN
14 KEYO
15 A-GND
16 CD-R-ch
17 Tu-R-ch
18 CD-L-ch
19 Tu-L-ch
L1501, 1502: AD4L26A00400
CN131
+12V(LED)
+5V
IR
DIG-E
RESET
VDD
P-MUTE
SUB-SO
SUB-SCK
SUB-BUSY
KEY3
KEY2
KEY1
CN132
KEYO
LED
+12V(Tu)
Tu-R-ch
Tu-E
Tu-L-ch
TO FRONT

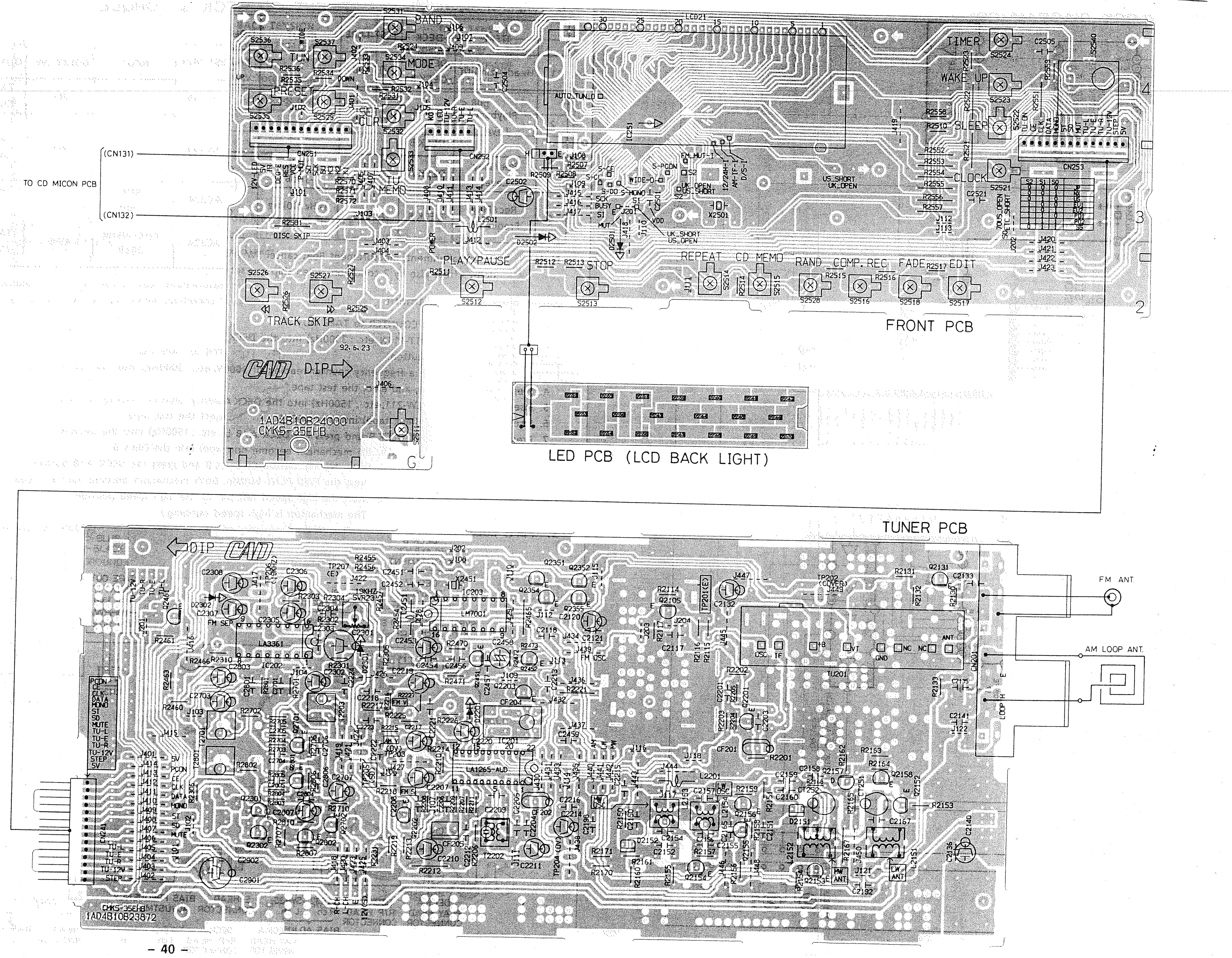
WIRING DIAGRAM (CD)


CD MECHANISM
PICKUP
LOADING & SLED MOTOR
SPINDLE MOTOR
T COIL
F COIL
CN103
CN102
CN101
CD MAIN PCB
CMKS-81X
1AD4B10B24200B
CAD FINE
IC101 SSP LA9210
DSP
DAC IC105
T.BAL SVR11
GND
LMT-SW
OPN-SW
SLED
SPDL
(CN252)
(CN251)
TO FRONT PCB
CD MICON PCB
1AD4B10B24100
CMKS-35EHB
CAD
IC103
CN131
CN132
CN141
CN161
POWER
TO DECK / AMPLIFIER UNIT
S1301
RESET
L1301

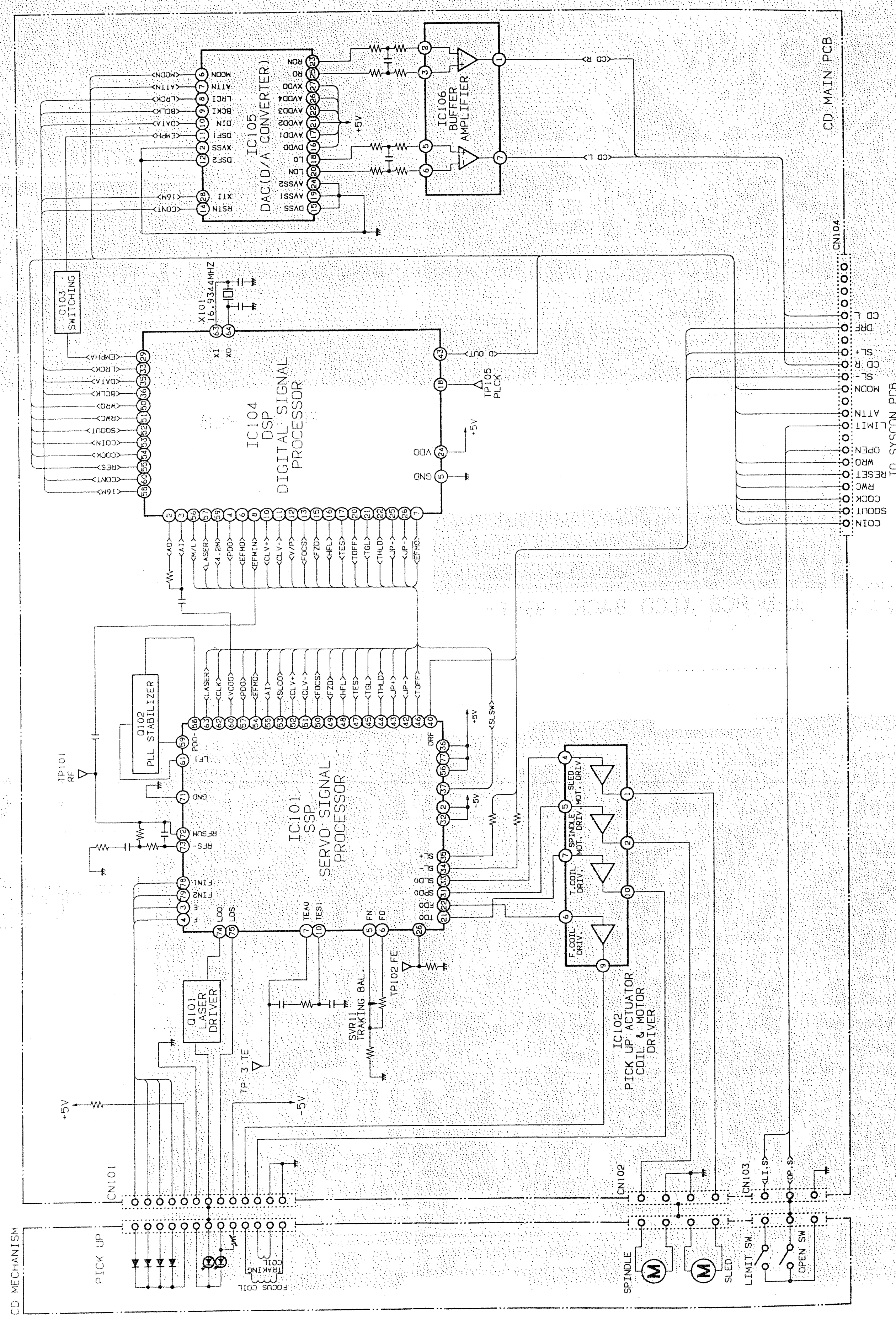
SCHEMATIC DIAGRAM (TUNER)


TUNER PACK TU201
ANT NC NC GND VT +B IF OSC
CN201
FM ANT
LOOP H
AM ANT
E
Q2131 2SC1815GR
R2131 10K
R2132 100K
R2130 27
C2137 0.001
C2133 0.001
C2135 0.001
C2141 56P
C2140 10/16
C2136 0.001
C2132 10/16
TP201(E)
R2133 3.3K
TP202(COVER)
R2114 56K
Q2105 2SC1923Y
R2115 33
R2116 33K
R2117 3.3K
C2118 100P
C2117 0.01
C2120 0.47/50
C2121 0.01
CF201
R2201 560
R2203 330
Q2201 2SC380TMO
R2204 1.8K
R2202 330
C2201 0.01
R2205 1.5K
C2203 0.01
C2459 100P
CF202
Q2157 2SK193ML
Q2158 2SC1815GR
C2158 56P
R2164 330
R2165 56K
R2162 1M
R2163 220
C2151 0.047
R2151 10K
D2151
Q2152 2SC2878A
R2153 3.3K
CT252
C2167 5.6P
CT251
L2152
L2151
R2154 3.3K
R2167 100
R2150 10K
C2152 470P
C2198 100P
C2150 0.022
D2152
Q2154 2SC2878A
C2154 10P
C2155 560P
R2157 470K
C2156 33P
L2153
L2154
Q2153 2SC2878A
C2157 0.022
R2159 1M
R2158 3.3K
R2155 3.3K
R2156 3.3K
R2160 820K
R2161 22K
C2165 68P
Q2155 2SC2878A
Q2156 2SC2878A
LW +B
MW +B
FM +B
Q2355 RN2207
Q2354 RN2207
R2171 100K
R2170 100K
C2458 1/50
R2472 1.5K
C2457 0.01
R2473 10K
Q2451 2SC1815(L)GR
R2471 2.2K
C2456 0.001
R2470 2.2K
Q2452 2SC1815(L)GR
C2452 24P
X2451
C2451 24P
IC203 LM7001
BO3 AMIN FMIN VDD1 VDD2 PD1 PD2 VSS
BO2 BO1 SYC DATA CL CE XIN XOUT
Q2352 RN2207
Q2351 RN2207
R2465 33
R2454 100K
R2461 56K
Q2461 2SC1815GR
CN241
L2451 100μH
C2453 10/16
C2454 0.01
R2466 10K
R2457 1K
R2456 1K
R2455 1K
PCON
CE
CLK
DATA
MONO
ST
SD
MUTE
TU-L
TU-E
TU-R
12V
STEP
5V
R2460 100
C2901 100/16
C2902 0.01
IC201 LA1265
CF205
C2204 0.022
C2205 0.022
T2202
R2206 10K
R2207 33K
C2206 0.01
C2207 1/50
C2208 100P
R2209 100
C2209 0.01
C2210 0.47/50
C2211 100/10
C2212 0.01
R2208 3.3K
R2211 560K
R2212 150
TP203
TP205
R2213 1K
R2210 33K
TP204
R2168 100
C2160 0.022
C2215 0.022
L2201 1mH
C2159 220P
CF204
D2201
C2220 4.7/25
R2226 2.2K
R2214 22K
C2216 0.022
R2215 4.7K
C2222 0.047
C2221 0.022
C2223 0.01
C2214 10/16
C2213 0.01
C2217 10/16
C2192 100P
C2218 0.01
C2219 10/16
R2227 68K
R2225 6.8K
R2216 56K
Q2202 2SC1815GR
T2203
LPF
R2217 56K
R2218 12K
C2224 470P
C2302 10/16
R2221 10K
R2231 47K
R2219 1K
Q2203 2SA1015GR
R2301 330
R2701 4.7K
R2801 4.7K
R2310 560
C2301 100/10
C2803 1/50
T2701
C2703 1/50
T2801
C2701 0.012
C2801 0.012
IC202 LA3361
C2303 0.022
C2305 0.47/50
R2303 1K
C2306 1/50
TP206
C2307 1/50
D2301
D2302
R2304 56K
R2305 10K
C2308 1/50
R2302 6.8K
SVR23 10K
C2304 1000P
TP207
Q2801 2SC1815GR
R2802 12K
R2803 12K
C2805 2200P
C2804 470P
R2702 12K
R2804 2.2K
R2806 560K
R2805 270
R2703 12K
R2706 560K
C2705 2200P
C2704 470P
R2705 270
Q2701 2SC1815GR
R2704 2.2K
C2806 2700P
C2706 2700P
C2707 1/50
C2807 1/50
R2463 56K
Q2302 RN2207
R2707 3.3K
R2807 3.3K
Q2802 2SC2878A
Q2702 2SC2878A
R2306 56K
Q2301 2SC1815GR
R2710 100K
R2810 100K

WIRING DIAGRAM (TUNER & FRONT)


TO CD MICON PCB
(CN131)
(CN132)
BAND
TUN
PRESET
MODE
ISET
TU MEMO
UP
DOWN
CN251
CN252
LCD21
IC251
AUTO_TUN_D
TIMER
WAKE UP
SLEEP
CLOCK
CN253
DISC SKIP
PLAY/PAUSE
STOP
REPEAT
CD MEMO
RAND
COMP. REC
FADE
EDIT
TRACK SKIP
US_SHORT
UK_OPEN
UK_SHORT
US_OPEN
92. 6. 23
CAD DIP
1AD4B10B24000
CMK5-35EHB
FRONT PCB
LED PCB (LCD BACK LIGHT)
TUNER PCB
FM ANT
AM LOOP ANT.
LA3361
LM7001
LA1265-AUD
TU201
CN201
CN241
FM SEP
CMK5-35EHB
1AD4B10B23872

BLOCK DIAGRAM (CD)


IC105 DAC (D/A CONVERTER)
IC106 BUFFER AMPLIFIER
CD MAIN PCB
CN104
TO SYSCON PCB
IC104 DSP DIGITAL SIGNAL PROCESSOR
X101 16.9344MHz
Q103 SWITCHING
TP105 PLCK
Q102 PLL STABILIZER
IC101 SSP SERVO SIGNAL PROCESSOR
IC102 PICK UP ACTUATOR COIL & MOTOR DRIVER
Q101 LASER DRIVER
SVR101 TRAKING BAL.
TP102 FE
TP 3 TE
TP101 RF
+5V
-5V
CN101
CN102
CN103
CD MECHANISM
PICK UP
SPINDLE
SLED
LIMIT SW
OPEN SW

ADJUSTMENT OF DECK & TORQUE

1. Amplifier Adjustment

	ITEM	DECK	TEST TAPE	INPUT	DOLBY SW	OUTPUT	ADJUST POINT	REMARKS
1	Head Azimuth	DECK A DECK B	VTT738	-	OFF	TAPE OUT	Azimuth Screw	Adjust so as 10kHz output become maximum.
2	Playback Level	DECK A DECK B	TCC130	-	OFF	TAPE OUT	SVR30 (L-ch) SVR31 (R-ch) SVR32 (L-ch) SVR33 (R-ch)	Adjust so as TAPE OUT output become 0.54V.
3	Rec / Play Level	DECK A	AC224	1kHz -18dB	OFF	TAPE OUT	SVR34 (L-ch) SVR35 (R-ch)	Adjust SVR so as Monitor o/p = R/P Level = 0dB ± 1dB.
4	Rec / Play Frequency	DECK B	AC224	1kHz /10kHz -28dB	OFF	TAPE OUT	SVR36 (L-ch) SVR37 (R-ch)	R/P signal, set frequency characteristic 1kHz output to 0dB. Adjust SVR so as 10kHz output become ± 1dB.

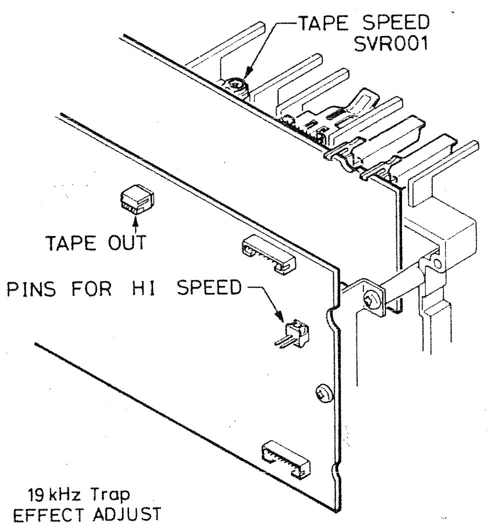
Note. 1. During alignment, measurement Beat cancel SW is at 1 condition fundamentally, confirm Rec / Play frequency characteristic, dolby effect also by 2 condition, when ship out set SW to 1 position.

2. Tape Speed Adjustment

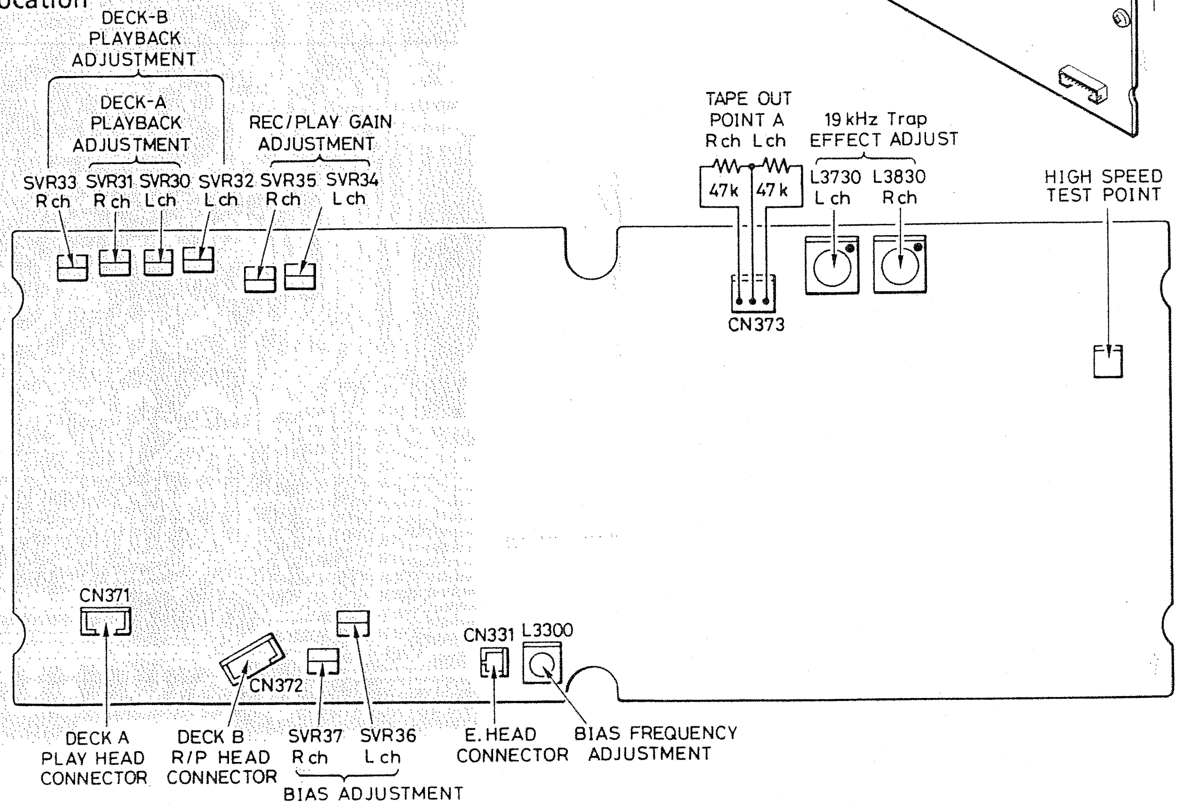
Connect the FREQUENCY COUNTER to TAPE OUT.

Note : Set the test tape near the tape end.

1. Insert the test tape(MTT-111N, etc. : 3000Hz) into the DECK A.
2. Press the FWD PLAY button.
3. Adjust SVR001 so that a frequency counter reading of 3000 ± 5 Hz is obtained.
4. Press the STOP button, and eject the test tape.
5. Insert the test tape(TCW-211, etc. : 1500Hz) into the DECK A.
6. Insert the tape (C-60 Blank tape) into the DECK B.
7. Press the REC button of DECK B and press the DECK A / B button.
   Press the FWD PLAY button. Both mechanism become normal speed dubbing.
8. Short the high speed test pin to the high speed position.
   (The mechanism is high speed dubbing.)
9. Confirm that a frequency counter reading of 2700 ~ 3300Hz is obtained.


TAPE SPEED SVR001
TAPE OUT
PINS FOR HI SPEED

3. Parts Location


DECK-B PLAYBACK ADJUSTMENT
DECK-A PLAYBACK ADJUSTMENT
REC/PLAY GAIN ADJUSTMENT
SVR33 R ch
SVR31 R ch
SVR30 L ch
SVR32 L ch
SVR35 R ch
SVR34 L ch
TAPE OUT POINT A
R ch L ch
47k
47k
CN373
19 kHz Trap EFFECT ADJUST
L3730 L ch
L3830 R ch
HIGH SPEED TEST POINT
CN371
CN372
CN331
L3300
DECK A PLAY HEAD CONNECTOR
DECK B R/P HEAD CONNECTOR
SVR37 R ch
SVR36 L ch
BIAS ADJUSTMENT
E. HEAD CONNECTOR
BIAS FREQUENCY ADJUSTMENT

ADJUSTMENT OF DECK & TORQUE

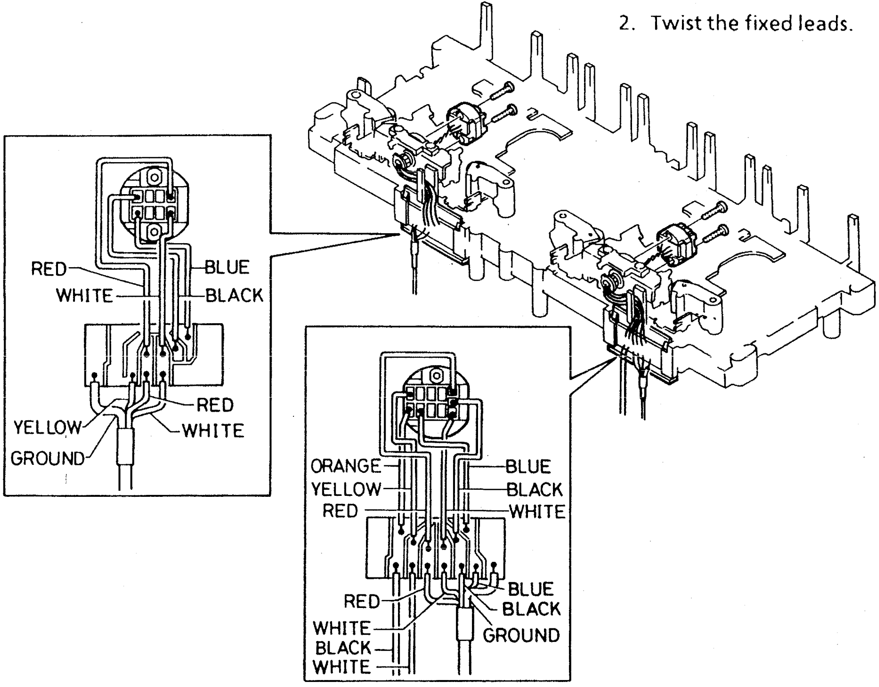
4. Torque Measurements

ITEM	TAKE-UP TORQUE	BACK TENSION	TAPE TENSION
Test cassette	PLAY :TW2111(FWD) PLAY :TW2121(REV) F.FWD / REW;TW2231	PLAY :TW2111(FWD) PLAY :TW2121(REV) REW:Torque Gage	Driving power cassette: TW-2412(FWD) TW-2422(REV)
PLAY	30 ~ 60gr.cm	2.0 ~ 5.0gr.cm	> 80g
F.FWD	70 ~ 140gr.cm	-	
REW	70 ~ 140gr.cm	-	

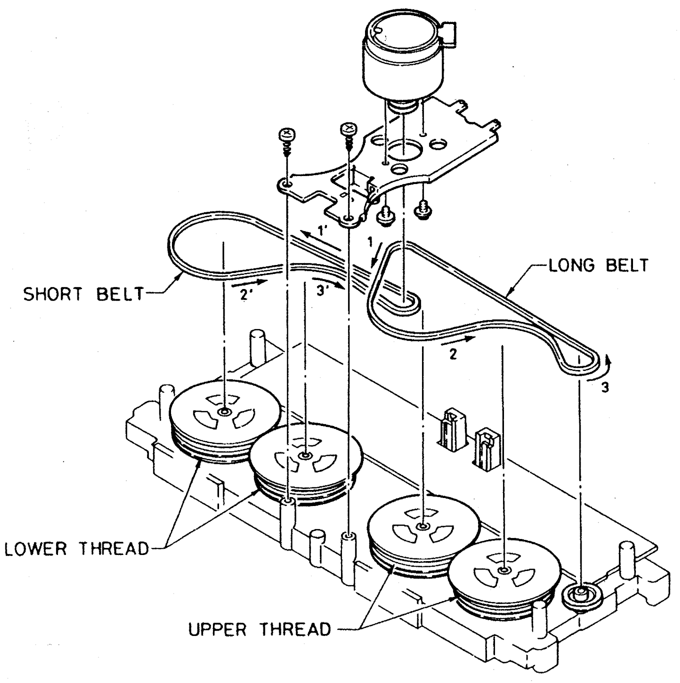
5. Replacement of Head

Lead Connection Method of Rotary Head

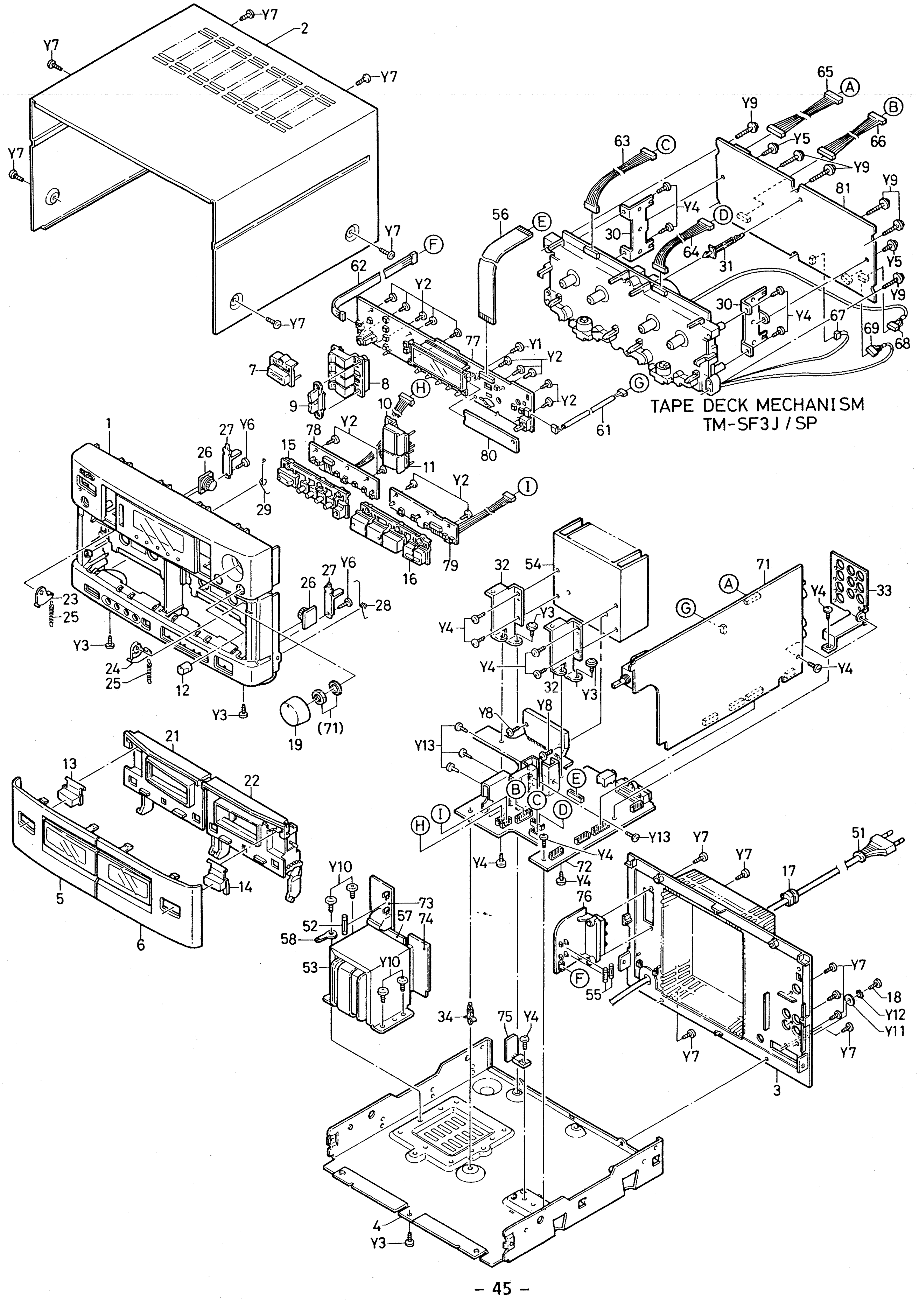
1. Fix the leads from the head at the stem with the rubber adhesives.
2. Twist the fixed leads.


RED
WHITE
BLUE
BLACK
RED
YELLOW
WHITE
GROUND
ORANGE
YELLOW
RED
BLUE
BLACK
WHITE
RED
BLUE
BLACK
WHITE
BLACK
WHITE
GROUND

6. Replacement of Motor and Belt


1'
1
SHORT BELT
2'
3'
LONG BELT
2
3
LOWER THREAD
UPPER THREAD

EXPLODED VIEW (TAPE DECK & AMPLIFIER UNIT)


Y7
2
Y7
Y7
Y7
Y7
Y7
65
Ⓐ
Y9
Ⓑ
Y5
66
63
Ⓒ
Y9
Y9
81
56
Ⓔ
Y4
Ⓓ
30
64
31
Y5
Y9
Ⓕ
62
Y2
30
Y4
67
69
68
77
Y1
Y2
Y2
Ⓖ
7
8
Ⓗ
9
10
TAPE DECK MECHANISM
TM-SF3J / SP
1
27
Y6
78
Y2
61
80
26
15
11
Y2
Ⓘ
29
79
16
32
54
71
Ⓐ
27
Y6
Y4
33
26
28
Ⓖ
Y3
23
25
Y4
Y3
Y4
Y4
24
32
25
12
Y3
Y8
Y8
Y3
19
(71)
21
Y13
13
22
Ⓑ
Ⓔ
Ⓒ
Ⓓ
Ⓗ
Ⓘ
Y13
Y7
Y4
Y7
51
Y4
72
Y4
17
5
14
Y10
6
73
76
52
57
74
58
53
Y10
Ⓕ
55
Y7
18
Y12
Y11
34
75
Y4
Y7
Y7
3
4
Y3

PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION: Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.
N.S.P : Not avairable as service parts.

CABINET

Ref. No.	Part No.	Description
1	614 238 9959	ASSY,PANEL,FRONT
2	614 240 0623	ASSY,CABINET
3	614 243 1986	ASSY,PANEL,REAR
4	614 238 9874	ASSY,CABINET,BOTTOM
5	614 245 1311	ASSY,COVER,TAPE A
6	614 238 9898	ASSY,COVER,TAPE B
7	614 239 0467	BUTTON,POWER
8	614 239 0016	ASSY,BUTTON,PRESET
9	614 239 0474	BUTTON,EQ
10	614 239 0481	BUTTON,FUNCTION
11	614 239 1099	ESCUTCHEON
12	614 239 0405	KNOB,ROTARY,BALANCE
13	614 239 0443	KNOB,LEVER,EJECT A
14	614 239 0450	KNOB,LEVER,EJECT B
15	614 239 0023	ASSY,BUTTON,REC
16	614 239 0030	ASSY,BUTTON,PLAY
17	⚠ 614 129 1772	FIXER,AC CORD
18	412 003 2804	SPECIAL SCREW,PHONO GND
19	614 239 0429	KNOB,ROTARY,MAIN VOLUME

CHASSIS

Ref. No.	Part No.	Description
21	614 238 9904	ASSY,LID,CASSETTE,TAPE A
22	614 238 9911	ASSY,LID,CASSETTE,TAPE B
23	614 221 8983	LEVER,EJECT L
24	614 221 8990	LEVER,EJECT R
25	614 208 9606	SPRING,TENS,EJECT
26	614 244 8199	GEAR ASSY,CASSETTE DUMPER
27	614 239 0603	MOUNT-M,DUMP GEAR FIX
28	614 239 0689	SPRING WIRE,CASSETTE OPEN
29	614 241 2886	SPRING WIRE,CASSETTE OPEN
30	614 221 8839	BRACKET-E,DECK PCB
31	614 129 5558	FIXER,DECK PCB
32	614 239 0559	BRACKET-M,HEAT SINK
33	614 239 0634	SHIELD,RCA
34	614 129 5534	FIXER,MAIN PCB
35	614 246 2775	INSULATOR,SP SOCKET
	614 129 4971	FIXER,DRESS LEAD

FIXING PARTS

Ref. No.	Part No.	Description
Y01	411 021 3107	SCR S-TPG BIN 2.6X8
Y02	411 021 1806	SCR S-TPG BIN 2.6X10
Y03	411 020 9803	SCR S-TPG BRZ+FLG 3X6
Y04	411 021 6405	SCR S-TPG BIN 3X8
Y05	411 020 9902	SCR S-TPG BRZ+FLG 3X8
Y06	411 021 3503	SCR S-TPG BIN 3X10
Y07	411 021 3701	SCR S-TPG BIN 3X10
Y08	411 020 9407	SCR S-TPG BRZ+FLG 3X14
Y09	411 098 4403	SCR S-TPG BIN 3X25,MECHA
Y10	411 021 9604	SCR S-TPG BIM 4X8,P.T
Y11	411 105 9704	WASHER Z 3X10X1,PHONO GND
Y12	411 008 0402	WASHER OUT TW 3,PHONO GND
Y13	411 021 5705	SCR S-TPG BIN 3X6

ELECTRICAL PARTS

Ref. No.	Part No.	Description
51	⚠ 614 023 3100	POWER CORD,AC-IN
or	⚠ 614 023 3148	POWER CORD,AC-IN
52	⚠ 423 005 6509	FUSE 250V 1.25A, POWER(FU999)
53	⚠ 614 239 7329	POWER TRANSFORMER
54	⚠ 614 239 6841	HEAT SINK,AF POWER IC
55	⚠ 423 016 8004	FUSE 250V 3.15A, SPEAKER(FU701·801)
56	614 239 7381	CORD,17P,FRONT-MAIN(FFC)
57	614 234 9328	INSULATOR,PT-PRIMARY PCB
58	614 051 9808	LUG,EARTH
61	614 239 6643	ASSY,CONNECTOR-S,3P, FRONT-PRE
62	614 239 6650	ASSY,CONNECTOR-S,4P, FRONT-SP
63	614 243 1948	ASSY,CONNECTOR-S,8P, MAIN-MECHA.A(CN001)
64	614 243 1924	ASSY,CONNECTOR-S,8P, MAIN-MECHA.B(CN002)
65	614 243 1955	ASSY,CONNECTOR-S,9P, PRE-DECK(CN301)
66	614 243 1931	ASSY,CONNECTOR-S,9P, MAIN-DECK(CN302)
67	614 231 2599	ASSY,CONNECTOR-S,2P, E HEAD(CN341)
68	614 231 2575	ASSY,CONNECTOR-S,3P, P HEAD(CN381)
69	614 231 2582	ASSY,CONNECTOR-S,5P, R/P HEAD(CN382)

PRE-AMPLIFIER P.C.BOARD ASSY

Ref. No.	Part No.	Description
71	614 245 2714	ASSY,PCB,PRE-AMP.
C4516	403 139 9102	MT-POLYEST 0.082U J 63V
C4517	403 065 8200	MT-POLYEST 0.27U J 63V
C4518	403 139 8600	MT-POLYEST 0.033U J 63V
C4519	403 065 8002	MT-PLLYEST 0.1U J 63V
C4572	403 057 1905	POLYESTER 0.1U J 50V
C4573	403 057 1905	POLYESTER 0.1U J 50V
C4574	403 057 1905	POLYESTER 0.1U J 50V
C4575	403 057 1905	POLYESTER 0.1U J 50V
C4578	403 062 6209	POLYESTER 0.056U J 50V
C4616	403 139 9102	MT-POLYEST 0.082U J 63V
C4617	403 065 8200	MT-POLYEST 0.27U J 63V
C4618	403 139 8600	MT-POLYEST 0.033U J 63V
C4619	403 065 8002	MT-PLLYEST 0.1U J 63V
C4672	403 057 1905	POLYESTER 0.1U J 50V
C4673	403 057 1905	POLYESTER 0.1U J 50V
C4674	403 057 1905	POLYESTER 0.1U J 50V
C4675	403 057 1905	POLYESTER 0.1U J 50V
C4678	403 062 6209	POLYESTER 0.056U J 50V
CN301	614 017 2607	PLUG,9P,TO DECK
CN411	614 239 7244	SOCKET,10P,TO MAIN-AMP.
CN412	614 239 7220	SOCKET,8P,TO MAIN-AMP.
CN413	614 239 7213	SOCKET,7P,TO MAIN AMP.
CN414	614 241 9441	SOCKET,6P,TO MAIN-AMP.
CN431	614 221 3360	SOCKET,4P,RCA,PHONO & VIDEO
CN432	614 239 5462	SOCKET,1P,RCA,EXT SP
CN441	614 017 2546	PLUG,3P,TO FRONT(VR)
D4190	407 053 6407	ZENER DIODE MTZ5.1C
D4350	407 053 6704	ZENER DIODE MTZ5.6B
D4450	407 053 6704	ZENER DIODE MTZ5.6B
D4500	407 053 6308	ZENER DIODE MTZ5.1B
D4501	407 053 7701	ZENER DIODE MTZ6.8C
D4502	407 053 7701	ZENER DIODE MTZ6.8C
IC701	409 018 4909	IC LA6458S
IC702	409 003 9308	IC BU4051B
IC703	409 018 4909	IC LA6458S
IC704	409 018 4909	IC LA6458S
IC705	409 088 4007	IC LC7522
IC706	409 018 4909	IC LA6458S
IC707	409 114 4803	IC LB1641
IC711	409 018 4909	IC LA6458S
IC802	409 003 9308	IC BU4051B
L4190	614 027 9214	COIL,CHOKE
Q4301	405 105 7204	TR BA1L4Z
or	405 075 8409	TR DTC144TS
Q4302	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4303	405 105 7204	TR BA1L4Z
or	405 075 8409	TR DTC144TS
Q4304	405 105 7204	TR BA1L4Z
or	405 075 8409	TR DTC144TS
Q4305	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4306	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4307	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4308	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q4309	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q4504	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4505	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4506	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4507	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4508	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4509	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4510	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4570	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4571	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4604	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4605	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4606	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4607	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4608	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4609	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4610	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4670	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4671	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
R4190	⚠ 402 004 4303	FUSIBLE RES 10 J- 1/4W
RA450	614 218 0464	RESISTOR,100K X8
or	614 209 3696	RESISTOR,100K X8
RA451	614 218 0464	RESISTOR,100K X8
or	614 209 3696	RESISTOR,100K X8
S3101	614 012 4316	SWITCH,BEAT CANCEL
or	614 023 8297	SWITCH,BEAT CANCEL
S4302	614 215 9828	SWITCH,TACT,RESET
VR451	614 239 4755	VR,ROTARY,100K(B),MAIN VOL

PARTS LIST

MAIN-AMPLIFIER P.C.BOARD ASSY

Ref. No.	Part No.	Description
72	614 245 2738	ASSY,PCB,MAIN-AMP.
C4907	403 200 0502	ELECT 3300U M 50V
C4908	403 200 0502	ELECT 3300U M 50V
C4925	403 200 0205	ELECT 2200U M 35V
C5000	403 135 3302	ELECT 1000U M 6.3V
CN001	614 017 2591	PLUG,8P,TO MECHA. A
CN002	614 228 0911	PLUG,8P,TO MECHA. B
CN302	614 236 4277	PLUG,9P,TO DECK-AMP.
CN321	614 220 2739	PLUG,6P,TO FRONT SW1
CN322	614 017 2577	PLUG,6P,TO FRONT SW2
CN500	614 241 0530	SOCKET,17P,TO FRONT(FFC)
CN802	614 020 1239	SOCKET,4P,TO SP TERMINAL
CN850	614 020 6555	SOCKET,3P,TO REGULATOR IC
or	614 223 9216	SOCKET,3P,TO REGULATOR IC
CN870	614 020 6579	SOCKET,5P,TO P.T SEC
or	614 223 9230	SOCKET,5P,TO P.T SEC
CN871	614 020 1222	SOCKET,3P,TO P.T PRI
CN900	614 239 5455	SOCKET,19P,TO CD/TUNER UNIT
CN911	614 239 7176	PLUG,10P,TO PRE-AMP
CN912	614 239 7152	PLUG,8P,TO PRE-AMP
CN913	614 239 7145	PLUG,7P,TO PRE-AMP
CN914	614 241 9434	PLUG,6P,TO PRE-AMP
D4741	407 053 3208	ZENER DIODE MTZ12B
D4900	⚠ 407 077 7800	DIODE RBV-402LF-A
or	⚠ 407 146 3306	DIODE RBA-402LF-A
D4901	⚠ 407 012 3300	DIODE 1SR35-200A
D4902	⚠ 407 012 3300	DIODE 1SR35-200A
D4903	⚠ 407 012 3300	DIODE 1SR35-200A
D4904	⚠ 407 012 3300	DIODE 1SR35-200A
D4905	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D4911	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D4912	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D4913	407 053 3802	ZENER DIODE MTZ15C
D4950	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D4951	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176

Ref. No.	Part No.	Description
D4952	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D4953	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D5000	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D5005	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D5006	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
D5007	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
D5200	407 053 6704	ZENER DIODE MTZ5.6B
D5201	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D5202	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D5300	407 053 6704	ZENER DIODE MTZ5.6B
D5301	407 053 6704	ZENER DIODE MTZ5.6B
HS401	⚠ 614 203 7362	HEAT SINK, FOR IC900
HS402	⚠ 614 203 7362	HEAT SINK, FOR IC903
HS403	⚠ 614 121 5884	HEAT SINK, FOR Q4903
HS404	⚠ 614 121 5884	HEAT SINK, FOR Q4904
IC500	410 150 9608	IC UPD75516GF-412-3B9
IC501	409 275 5107	IC BA3826S
IC700	⚠ 409 067 2109	IC STK4162MK2
C900	⚠ 409 027 1005	IC L780S12
C901	⚠ 409 169 7804	IC NJM78M05FA
r	⚠ 409 057 6407	IC UPC78M05H
r	⚠ 409 026 8500	IC L78M05
C903	⚠ 409 027 1005	IC L780S12
4720	405 016 2206	TR 2SC2878-A
r	405 016 2305	TR 2SC2878-B
4721	405 016 2206	TR 2SC2878-A
r	405 016 2305	TR 2SC2878-B
4740	⚠ 405 015 1606	TR 2SC2655-Y
4741	405 012 2002	TR 2SC1815-GR
r	405 020 7204	TR 2SC945A-K
4742	405 035 1600	TR RN1211
r	405 107 8704	TR BA1A4Z
r	405 000 3400	TR DTC114TS
4820	405 016 2206	TR 2SC2878-A
r	405 016 2305	TR 2SC2878-B
4821	405 016 2206	TR 2SC2878-A
	405 016 2305	TR 2SC2878-B
4901	405 012 2002	TR 2SC1815-GR
	405 020 7204	TR 2SC945A-K
4902	405 012 2002	TR 2SC1815-GR
	405 020 7204	TR 2SC945A-K
4903	⚠ 405 077 9008	TR TIP29B
4904	⚠ 405 078 8109	TR TIP32B
905	405 001 7209	TR 2SA1015-Y
906	405 012 2002	TR 2SC1815-GR
	405 020 7204	TR 2SC945A-K
001	405 035 1600	TR RN1211
	405 107 8704	TR BA1A4Z
002	405 035 1600	TR RN1211
	405 107 8704	TR BA1A4Z
003	405 001 0200	TR RN1202

Ref. No.	Part No.	Description
or	405 078 2909	TR BA1A4M
Q5004	405 001 0200	TR RN1202
or	405 078 2909	TR BA1A4M
Q5005	405 001 0200	TR RN1202
or	405 078 2909	TR BA1A4M
Q5006	405 001 1108	TR RN2202
or	405 078 2305	TR BN1A4M
Q5007	405 001 1108	TR RN2202
or	405 078 2305	TR BN1A4M
Q5008	405 001 1108	TR RN2202
or	405 078 2305	TR BN1A4M
Q5200	405 091 4201	TR BN1L4Z
or	405 075 7907	TR DTA114TS
Q5201	405 057 7604	TR 2SA1175-FF
or	405 002 1107	TR 2SA1048-GR
or	405 002 5402	TR 2SA1175-EF
Q5202	405 001 0200	TR RN1202
or	405 078 2909	TR BA1A4M
or	405 000 3103	TR DTC114ES
R4706	401 008 7204	CARBON 2.2K JB 1/2W
R4741	⚠ 402 023 1703	FUSIBLE RES 100 J- 1/4W
R4806	401 008 7204	CARBON 2.2K JB 1/2W
R4841	⚠ 402 023 1703	FUSIBLE RES 100 J- 1/4W
R4844	⚠ 402 023 1703	FUSIBLE RES 100 J- 1/4W
R4909	⚠ 402 066 3108	FUSIBLE RES 27 JS 1/2W
R4910	⚠ 402 066 3207	FUSIBLE RES 47 JS 1/2W
RA500	614 217 1318	RESISTOR,10K X6
or	614 209 3641	RESISTOR,10K X6
RA501	614 209 3580	RESISTOR,10K X3
or	614 217 1288	RESISTOR,10K X3
RA502	614 217 1318	RESISTOR,10K X6
or	614 209 3641	RESISTOR,10K X6
RA503	614 209 3627	RESISTOR,10K X5
or	614 217 1301	RESISTOR,10K X5
X5000	614 215 5523	RESONATOR,4.19MHHZ,IC500

P.T PRIMARY P.C.BOARD ASSY

Ref. No.	Part No.	Description
73	614 245 2769	ASSY,PCB,P.T-PRI
	⚠ 614 017 8203	TERMINAL BOARD,AC-IN
FCLP5	⚠ 614 208 4540	FUSE HOLDER,FU999
FCLP6	⚠ 614 208 4540	FUSE HOLDER,FU999
L9999	⚠ 614 229 0422	INDUCTOR,FERITE,AC LINE

P.T SECONDARY P.C.BOARD ASSY

Ref. No.	Part No.	Description
74	614 245 2790	ASSY,PCB,P.T-SEC
CN770	614 020 6579	SOCKET,5P,TO MAIN-AMP.
or	614 223 9230	SOCKET,5P,TO MAIN-AMP.
CN771	614 020 1222	SOCKET,3P,TO MAIN-AMP.
ICP51	⚠ 614 205 2921	IC PROTECTOR ICP-N38
ICP52	⚠ 614 205 2921	IC PROTECTOR ICP-N38
R4997	⚠ 402 044 1607	RESISTOR 0.33 J- 1/2W
R4998	⚠ 402 044 1607	RESISTOR 0.33 J- 1/2W
R4999	⚠ 402 045 1309	RESISTOR 0.33 J- 1W

REGULATOR IC P.C.BOARD ASSY

Ref. No.	Part No.	Description
75	614 245 2820	ASSY,PCB,REG.-IC
CN750	614 020 6555	SOCKET,3P,MAIN-AMP.
or	614 223 9216	SOCKET,3P,MAIN-AMP.
IC902	⚠ 409 122 6202	IC NJM7812FA
or	⚠ 409 078 2402	IC L7812ML

Ref. No.	Part No.	Description
or	⚠ 409 168 2107	IC UPC7812HF
or	⚠ 409 001 7603	IC AN7812F

SPEAKER TERMINAL P.C.BOARD ASSY

Ref. No.	Part No.	Description
76	614 245 2851	ASSY,PCB,SP TERMINAL
	614 051 9808	LUG,EARTH
C4170	403 057 0403	POLYESTER 0.01U K 50V
C4171	403 062 5103	POLYESTER 5600P K 50V
C4172	403 062 5103	POLYESTER 5600P K 50V
CN700	614 239 1655	TERMINAL,4P,SPEAKER
CN701	614 017 2553	PLUG,4P,TO FRONT
CN702	614 020 1239	SOCKET,4P,TO MAIN-AMP.
D4750	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
FCLP1	614 208 4540	FUSE HOLDER,FOR FU701
FCLP2	614 208 4540	FUSE HOLDER,FOR FU701
FCLP3	614 208 4540	FUSE HOLDER,FOR FU801
FCLP4	614 208 4540	FUSE HOLDER,FOR FU801
R4750	401 010 5601	CARBON 5.6 JB 1/2W
R4751	401 009 5506	CARBON 330 JB 1/2W
R4850	401 010 5601	CARBON 5.6 JB 1/2W
R4851	401 009 5506	CARBON 330 JB 1/2W
RY700	614 242 7767	RELAY,SPEAKER

FRONT P.C.BOARD ASSY

Ref. No.	Part No.	Description
77	614 245 2912	ASSY,PCB,FRONT
	614 241 9151	REFLECTOR,LCD
	614 238 8037	SHEET,LCD
CN551	614 241 0752	SOCKET,17P,TO MAIN-AMP.
CN553	614 017 3833	PLUG,4P,TO SP TERMINAL
CN554	614 239 6193	JACK,PHONE
CN555	614 017 3826	PLUG,3P,TO PRE-AMP.
D5501	408 016 1200	LED SLZ-190B-09-T2,STAND BY
D5502	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D5503	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D5511	408 016 1002	LED SLZ-181C-15-T2,VIDEO
D5512	408 016 1002	LED SLZ-181C-15-T2,PHONO
D5513	408 016 1002	LED SLZ-181C-15-T2,TUNER
D5514	408 016 1002	LED SLZ-181C-15-T2,TAPE
D5515	408 016 1002	LED SLZ-181C-15-T2,CD
D5516	408 016 1101	LED SLZ-381C-15-T2,D'BASS
IC551	409 088 6209	IC LC7582
LCD51	614 238 3254	LCD(LIQUID CRYSTAL DISPLAY)
Q5501	405 001 0200	TR RN1202
or	405 078 2909	TR BA1A4M
or	405 000 3103	TR DTC114ES
Q5502	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q5503	405 105 7204	TR BA1L4Z
or	405 075 8409	TR DTC144TS
S5501	614 220 5648	SWITCH,TACT,POWER
S5502	614 220 5648	SWITCH,TACT,FUNCTION
S5514	614 220 5648	SWITCH,TACT,EQ-
S5515	614 220 5648	SWITCH,TACT,BASS EXPANDER
S5516	614 220 5648	SWITCH,TACT,DISPLAY
S5517	614 220 5648	SWITCH,TACT,FREQ/MEMO
S5518	614 220 5648	SWITCH,TACT,PRESET
S5519	614 220 5648	SWITCH,TACT,EQ+
VR551	614 239 7336	VR,ROTARY,BALANCE,100K(W)

FRONT SWITCH 1 P.C.BOARD ASSY

Ref. No.	Part No.	Description
78	614 245 2950	ASSY,PCB,FRONT SW 1
CN322	614 243 0903	ASSY,CONNECTOR-S,6P, TO MAIN-AMP
D3203	408 013 2903	LED SLZ-181C-09-A-T1,REC
or	408 013 3009	LED SLZ-181C-09-B-T1,REC
D3204	408 008 4806	LED SLP-381C-51-AB,TAPE A
D3205	407 109 4203	LED SLP-181C-51-A,TAPE B
or	407 109 4104	LED SLP-181C-51-B,TAPE B
Q3201	405 000 0508	TR DTA114ES
or	405 001 1108	TR RN2202
or	405 078 2305	TR BN1A4M
Q3202	405 000 0508	TR DTA114ES
or	405 001 1108	TR RN2202
or	405 078 2305	TR BN1A4M
S3206	614 240 4539	SWITCH,TACT,A/B
S3207	614 220 5631	SWITCH,TACT,DIR
S3208	614 220 5631	SWITCH,TACT,DOLBY
S3209	614 220 5631	SWITCH,TACT,DUB
S3210	614 220 5631	SWITCH,TACT,REC MUTE
S3211	614 240 4539	SWITCH,TACT,REC

FRONT SWITCH 2 P.C.BOARD ASSY

Ref. No.	Part No.	Description
79	614 245 2936	ASSY,PCB,FRONT SW2
CN321	614 243 0897	ASSY,CONNECTOR-S,6P, TO MAIN-AMP.
D3201	408 013 3207	LED SLZ-381C-09-A-T1,FOW
or	408 013 3306	LED SLZ-381C-09-B-T1,FOW
D3202	408 013 3207	LED SLZ-381C-09-A-T1,REV
or	408 013 3306	LED SLZ-381C-09-B-T1,REV
S3201	614 220 5631	SWITCH,TACT,STOP
S3202	614 220 5631	SWITCH,TACT,FOW
S3203	614 220 5631	SWITCH,TACT,REV
S3204	614 220 5631	SWITCH,TACT,F.F
S3205	614 220 5631	SWITCH,TACT,REW

LED (LCD BACK LIGHT) P.C.BOARD ASSY

Ref. No.	Part No.	Description
80	614 239 9095	ASSY,PCB,LED
CN562	614 242 9488	ASSY,CONNECTOR-S,2P,TO FRONT
D5551	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5552	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5553	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5554	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5555	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5556	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5557	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5558	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL

PARTS LIST

Ref. No.	Part No.	Description
or	407 153 9704	LED CL-170G-CD-CL
D5559	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5560	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5561	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5562	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5563	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5564	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5565	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5566	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5567	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5568	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5569	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5570	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL

TAPE DECK AMPLIFIER P.C.BOARD ASSY

Ref. No.	Part No.	Description
81	614 243 1573	ASSY,PCB,DECK-AMP
	614 117 1098	SHIELD PLATE
C3303	403 058 2406	POLYESTER 0.015U J 50V
C3304	403 058 1102	POLYESTER 1500P K 50V
CN301	614 017 2607	PLUG,9P,TO PRE-AMP.
CN302	614 239 9378	PLUG,9P,TO MAIN-AMP.
CN303	614 016 4084	PLUG,2P,HIGH SPEED
CN331	614 017 2539	PLUG,2P,E HEAD
CN371	614 017 2553	PLUG,4P,P HEAD
CN372	614 017 2560	PLUG,5P,R/P HEAD
CN373	614 035 5949	SOCKET,3P,TAPE OUT
D3101	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D3102	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D3103	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D3104	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D3105	407 005 4505	DIODE DS442X
or	407 013 7109	DIODE 1S2473
D3106	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
HS301	614 211 3592	HEAT SINK,BIAS LEAK
IC351	409 206 8207	IC CXA1331S
IC370	409 121 8702	IC LA3246
IC371	409 207 1900	IC MLC4066B
or	409 003 9506	IC BU4066B
or	409 051 3501	IC TC4066BP
or	409 059 2605	IC UPD4066BC
IC374	409 214 1900	IC CXA1298AP
IC375	409 145 8405	IC UPC1330HA
L3300	614 221 8280	TRANS,OSC
L3700	614 028 4379	FILTER,1000UH
L3730	614 029 3807	MX COIL,85KHZ
L3731	614 210 3685	INDUCTOR,FERITE,3.3MH
L3750	614 029 3142	MX COIL,85KHZ
L3800	614 028 4379	FILTER,1000UH
L3830	614 029 3807	MX COIL,85KHZ
L3831	614 210 3685	INDUCTOR,FERITE,3.3MH
L3850	614 029 3142	MX COIL,1000UH
Q3101	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 103 9606	TR AA1L4M
or	405 001 0408	TR RN1204
Q3102	405 000 2205	TR DTA144ES
or	405 078 2107	TR BN1L4M
or	405 103 9705	TR AN1L4M
or	405 001 1306	TR RN2204
Q3103	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 103 9606	TR AA1L4M
or	405 001 0408	TR RN1204
Q3104	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q3105	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 103 9606	TR AA1L4M
or	405 001 0408	TR RN1204
Q3106	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 103 9606	TR AA1L4M
or	405 001 0408	TR RN1204
Q3107	405 000 2205	TR DTA144ES
or	405 078 2107	TR BN1L4M
or	405 103 9705	TR AN1L4M
or	405 001 1306	TR RN2204
Q3108	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 103 9606	TR AA1L4M
or	405 001 0408	TR RN1204
Q3109	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q3160	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 103 9606	TR AA1L4M
or	405 001 0408	TR RN1204
Q3161	405 000 2205	TR DTA144ES
or	405 078 2107	TR BN1L4M
or	405 103 9705	TR AN1L4M
or	405 001 1306	TR RN2204
Q3300	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q3301	405 011 1907	TR 2SC1627-Y
Q3302	405 001 7001	TR 2SA1015-GR
or	405 005 2002	TR 2SA733-P
Q3303	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
or	405 011 8609	TR 2SC1740S-S
Q3730	405 033 6805	TR 2SD1468S-S
Q3830	405 033 6805	TR 2SD1468S-S

PARTS LIST

Ref. No.	Part No.	Description
SVR30	614 003 6190	SEMI-FIXED V.R,20K(B)
SVR31	614 003 6190	SEMI-FIXED V.R,20K(B)
SVR32	614 003 6190	SEMI-FIXED V.R,20K(B)
SVR33	614 003 6190	SEMI-FIXED V.R,20K(B)
SVR34	614 003 6183	SEMI-FIXED V.R,10K(B)
SVR35	614 003 6183	SEMI-FIXED V.R,10K(B)
SVR36	614 003 6213	SEMI-FIXED V.R,50K(B)
SVR37	614 003 6213	SEMI-FIXED V.R,50K(B)

PARTS LIST

TAPE DECK MECHANISM (TM-SF3J/SP)

Ref. No.	Part No.	Description
TM01	614 219 9657	ASSY,CHASSIS,TAPE DECK
TM02	614 195 9139	SPRING PLATE,CASETTE PRES
TM03	614 219 9671	ASSY,FLYWHEEL,REV,D2.0
TM04	614 219 9688	ASSY,FLYWHEEL,NOR,D2.2
TM05	412 034 4709	SPECIAL WASHER,REV FW FIX
TM06	412 014 3005	SPECIAL WASHER,NOR FW FIX
TM07	412 029 8200	SPECIAL WASHER,REV OIL PRF
TM08	412 012 7005	SPECIAL WASHER,NOR OIL PRF
TM09	614 219 9596	ASSY,COMMUTATE MOTOR
TM10	614 223 8677	BRACKET-E,MOTOR
TM11	614 219 9954	BELT,SQUARE,A-MECHA DRIVE
TM12	614 219 9961	BELT,SQUARE,B-MECHA DRIVE
TM13	614 195 8644	PULLEY,BELT DUMMY
TM14	412 022 0607	SPECIAL WASHER,D.PULLEY
TM15	614 220 0001	LEVER,PLAY GEAR
TM16	614 220 1657	ASSY,GEAR,PLAY CLUTCH
TM17	614 220 0261	PIPE,PLAY SLIP FIX
TM18	614 224 5293	CUSHION,BELT TUTCH(B)
TM19	614 224 5309	CUSHION,BELT TUTCH(A)
TM20	614 236 5397	SPRING,TENS,PLAY LEVER RSET
TM21	614 219 9817	GEAR,RELAY FIXED
TM22	614 220 0261	PIPE,GEAR FIX
TM23	614 220 1664	ASSY,GEAR,TAKE UP MOVE
TM24	614 220 0025	LEVER,TAKE UP MOVE B
TM25	614 220 1268	SPRING,WIRE,B MECHA REEL CHANGE CLIC
TM26	614 219 9848	GEAR,REEL RELAY
TM27	614 219 9831	GEAR,REEL
TM28	614 219 9886	REEL,RIGHT
TM29	614 219 9893	REEL,LEFT
TM30	614 220 1251	SPRING,COMP,BACK TENSION L
TM31	614 219 9695	ASSY,LEVER,PINCH,LEFT
TM32	614 219 9701	ASSY,LEVER,PINCH,LIGHT
TM33	614 229 7520	SPRING,WIRE,PINCH LEFT
TM34	614 220 1275	SPRING,WIRE,PINCH RIGHT
TM35	614 220 0070	LEVER,BRAKE R
TM36	614 220 0087	LEVER,BRAKE L
TM37	614 220 0162	SLIDE,DOOR LOCK A
TM38	614 220 0179	SLIDE,DOOR LOCK B
TM39	614 220 0247	SLIDE,EJECT RELAY A
TM40	614 220 0254	SLIDE,EJECT RELAY B
TM41	614 220 1190	SPRING,TENS,EJECT RELAY
TM42	614 220 0339	MAGNETIC COIL,SOLENOID
TM43	614 220 1626	ASSY,PCB,MECHA
TM44	614 219 9770	SHIELD,HEAD PCB
TM45	614 222 8968	PCB,P LEAD RELAY
TM46	614 222 8975	PCB,R/P LEAD RELAY
TM47	614 220 0148	LEVER,D.SLIDE LOCK
TM48	614 220 1312	SPRING,WIRE,LOCK LEVER
TM49	614 232 5414	LEVER,HEAD SLIDE UP A
TM50	614 220 0131	LEVER,HEAD SLIDE UP B
TM51	614 220 1688	ASSY,SLIDE,HEAD
TM52	614 220 1329	SPRING,WIRE,HEAD SLIDE
TM53	614 220 1183	SPRING,TENS,HEAD SILED CONT
TM54	614 219 9763	GUIDE,TAPE
TM55	614 220 1633	ASSY,BRACKET-E,HEAD LOCATE
TM56	614 220 0292	HEAD,REC/PLAY
TM57	614 220 0308	HEAD,PLAY
TM58	614 220 4900	GEAR,HEAD ROTARY
TM59	412 012 7609	SPECIAL WASHER,HEAD THRUST
TM60	614 220 0063	LEVER,SECTOR
TM61	614 220 1336	SPRING,WIRE,HEAD CLIC
TM62	614 226 5543	SPRING,COMP,AZIMUTH COIL
TM63	412 031 2005	SPECIAL SCREW,AZIMUTH BISS
TM64	614 221 8235	SPRING,WIRE,HEAD SLIDE GND
TM65	614 219 9992	LEVER,R/F A

Ref. No.	Part No.	Description
TM66	614 220 0032	LEVER,R/F B
TM67	614 219 9855	GEAR,R/F MOVE
TM68	614 220 0261	PIPE,R/F MOVE GEAR FIX
TM69	614 219 9879	GEAR,D.CAM
TM70	614 220 0049	LEVER,MAIN TRIGGER
TM71	614 220 0056	LEVER,SUB TRIGGER
TM72	614 223 8745	SLIDE,DRIVE
TM73	614 220 1299	SPRING,WIRE,D.SLIDE RESET
TM74	614 220 0186	SLIDE,A/B MECHA CHANGE
TM75	614 229 7506	SPRING,TENS,CHANGE SLIDE
TM76	614 229 7513	SPRING,TENS,TRIGGER INNER FORCE
TM77	614 219 9718	ASSY,SLIDE,HEAD CHANGE
TM78	614 220 1305	SPRING,WIRE,CHANGE SLIDE
TM79	614 220 0209	SLIDE,REEL CHANGE NO.1
TM80	614 219 9725	ASSY,SLIDE,REEL CHANGE NO.2
TM81	614 220 0346	SWITCH,LEAF,PACK1,S003
or	614 220 0346	SWITCH,LEAF,PACK2,S004
or	614 220 0346	SWITCH,LEAF,CROM1,S005
or	614 220 0346	SWITCH,LEAF,CROM2,S006
or	614 220 0346	SWITCH,LEAF,URFWD,S007
or	614 220 0346	SWITCH,LEAF,URREV,S008
TM82	614 225 6916	CUSHION,RUBBER,SILEN
TM83	614 226 6854	CUSHION,RF LEVER TOUTCH
TM84	614 229 1313	CUSHION,RUBBER,DRIVE SLIDE WIRE STOPPER
TM85	614 228 5053	CUSHION,RUBBER,H.S. STOPPER
TM86	614 228 2311	CUSHION,RF LEVER,SILEN

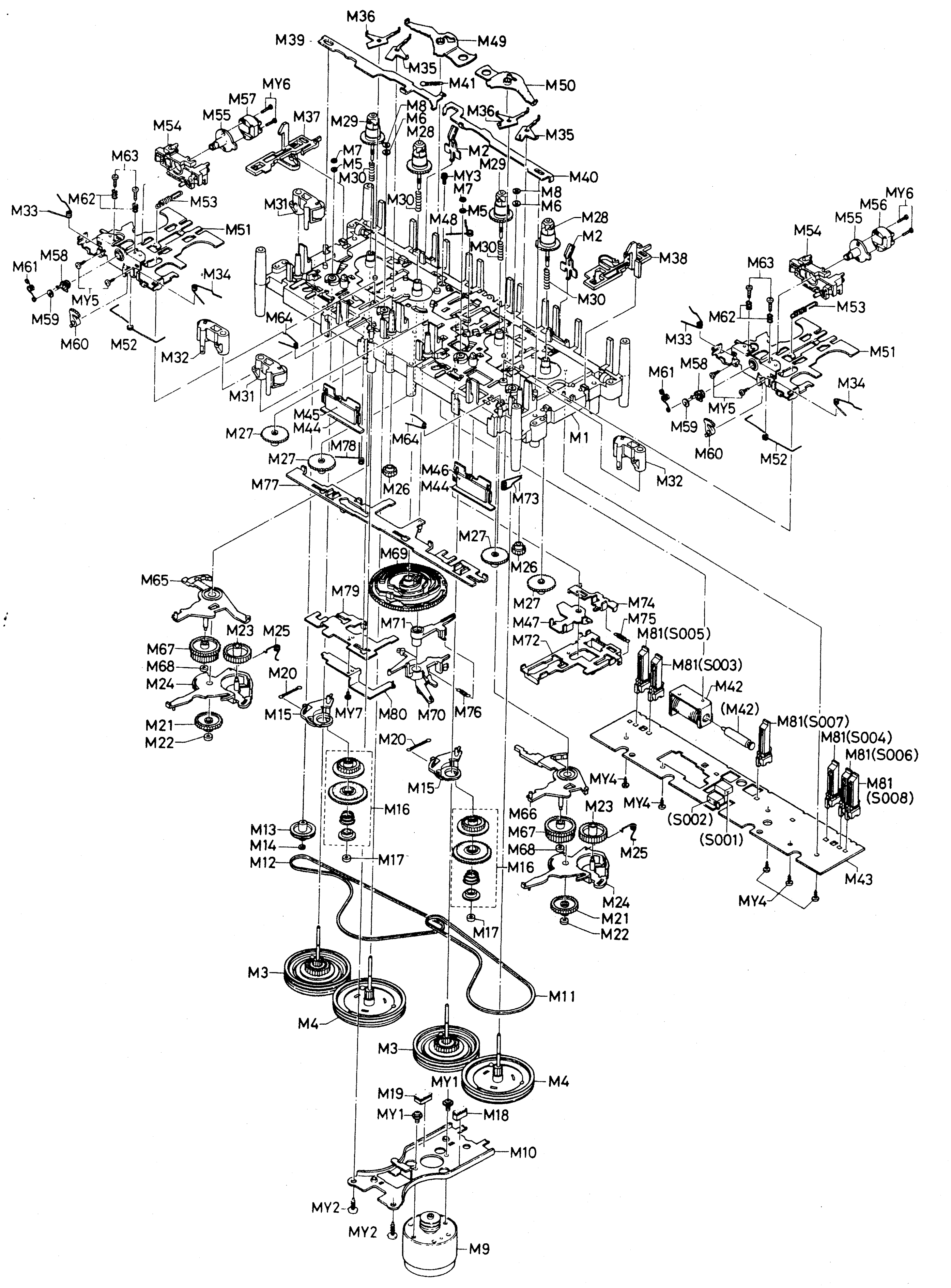
FIXING PARTS FOR TAPE DECK MECHANISM

Ref. No.	Part No.	Description
TY01	411 102 6300	SCR PAN-FLG 2.6X2.8, MOTOR
TY02	411 021 6405	SCR S-TPG BIN 3X8, B-MOTOR
TY03	411 044 7205	SCR PAN+SW 2X4, SOLENOID
TY04	411 021 0809	SCR S-TPG BIN 2X6
TY05	411 022 7807	SCR S-TPG PAN 2X6,TAPE GUID
TY06	411 124 9204	SCR PAN PCS 1.6X6, HEAD FIX
TY07	411 018 6401	SCR PAN PCS 2X2, REEL CH SLIDE NO.2

TAPE DECK MECHANISM P.C.BOARD ASSY

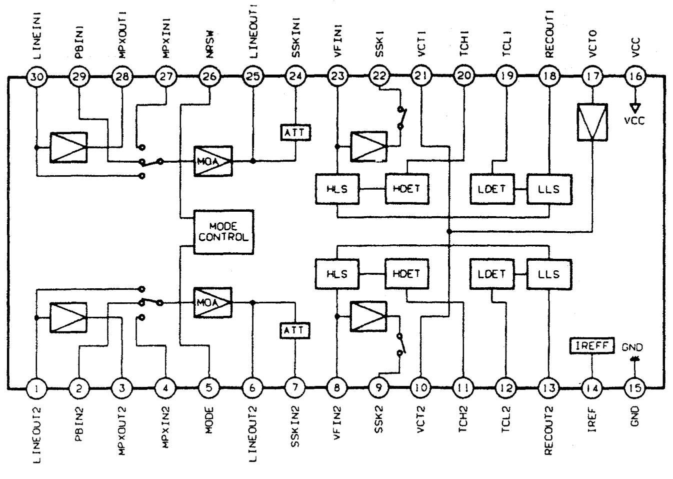
Ref. No.	Part No.	Description
TM43	614 220 1626	ASSY,PCB,MECHANISM
CN001	614 017 3871	PLUG,8P,CN001,TAPE A
CN002	614 235 3646	PLUG,8P,CN002,TAPE B
CN003	614 035 4935	SOCKET,4P,CN003,TO MOTOR
D001	407 004 9105	DIODE DSF10C
or	407 012 3300	DIODE 1SR35-200A
D002	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D003	407 051 6706	ZENER DIODE GZS5.1Y
or	407 053 6308	ZENER DIODE MTZ5.1B
PH001	407 131 9900	PHOTO COUPLE SPI-335-34-C
PH002	407 131 9900	PHOTO COUPLE SPI-335-34-C
ICP01	614 205 2884	IC PROTECTOR ICP-N10
Q001	⚠ 405 099 0908	TR 2SB621-S
Q002	405 002 1107	TR 2SA1048-GR
or	405 006 1905	TR 2SA933S-S
Q003	⚠ 405 099 0908	TR 2SB621-S
S001	614 224 2575	SWITCH,LEVER,PLAY
S002	614 224 2575	SWITCH,LEVER,STOP
SV001	614 003 6190	SEMI-FIXED V.R,20K(B)

EXPLODED VIEW (TAPE DECK MECHANISM)

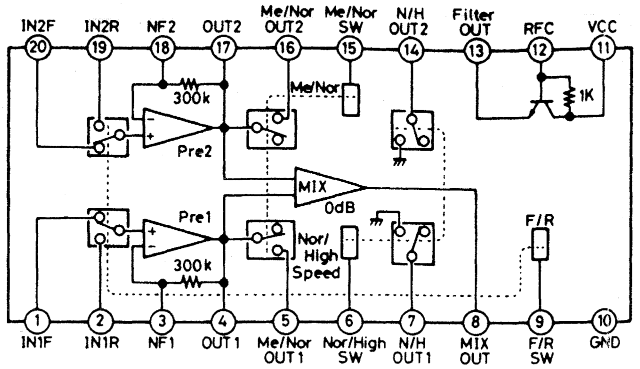

M36
M39
M49
M35
M41
M50
MY6
M57
M55
M37
M29
M8
M6
M28
M36
M35
M54
M7
M5
M30
M2
M29
M63
MY3
M7
M40
M62
M53
M31
M30
M5
M8
M6
M33
M51
M48
M28
M2
M30
M38
M58
M34
M61
M5Y
MY5
M30
M59
M64
M60
M52
M32
M31
M45
M44
M27
M78
M64
M1
M27
M46
M77
M26
M44
M73
M32
M27
M69
M26
M65
M79
M27
M74
M47
M75
M72
M81(S005)
M71
M23
M25
M67
M68
M24
M20
M81(S003)
M42
(M42)
M15
MY7
M80
M70
M76
M81(S007)
M21
M22
M20
M81(S004)
M81(S006)
M15
MY4
M81
(S008)
M16
M66
M23
MY4
(S002)
M13
M14
M12
M17
M67
M68
M16
M25
(S001)
M43
M24
M21
M22
MY4
M17
M3
M11
M4
M3
MY1
M4
M19
MY1
M18
M10
MY2
MY2
M9
M56
MY6
M55
M54
M63
M53
M62
M33
M51
M61
M58
M34
MY5
M59
M60
M52

IC BLOCK DIAGRAM (TAPE DECK)

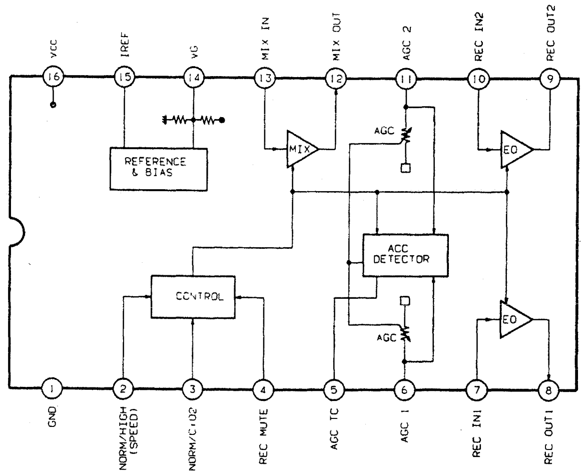
IC351 CXA1331S (Dolby-B / C Noise Reduction System)


LINEIN1
PBIN1
MPXOUT1
MPXIN1
NRSW
LINEOUT1
SSKIN1
VFIN1
SSK1
VCT1
TCH1
TCL1
RECOUT1
VCTO
VCC
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
VCC
ATT
MOA
HLS
HDET
LDET
LLS
MODE CONTROL
HLS
HDET
LDET
LLS
MOA
ATT
IREFF
GND
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
LINEOUT2
PBIN2
MPXOUT2
MPXIN2
MODE
LINEOUT2
SSKIN2
VFIN2
SSK2
VCT2
TCH2
TCL2
RECOUT2
IREF
GND

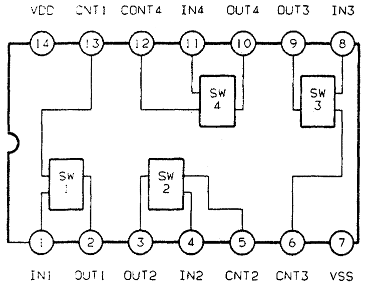
IC370 LA3246 (Pre & Mixing Amplifier with Electrical Switch)


IN2F
IN2R
NF2
OUT2
Me/Nor OUT2
Me/Nor SW
N/H OUT2
Filter OUT
RFC
VCC
20
19
18
17
16
15
14
13
12
11
300k
Me/Nor
Pre2
1K
MIX
0dB
Pre1
300k
Nor/High Speed
F/R
1
2
3
4
5
6
7
8
9
10
IN1F
IN1R
NF1
OUT1
Me/Nor OUT1
Nor/High SW
N/H OUT1
MIX OUT
F/R SW
GND

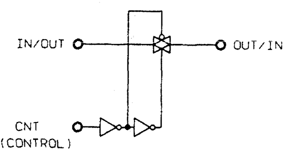
IC374 CXA1298AP (Equalizer Amplifier for Record)


VCC
IREF
VG
MIX IN
MIX OUT
AGC 2
REC IN2
REC OUT2
16
15
14
13
12
11
10
9
REFERENCE & BIAS
MIX
AGC
EQ
ACC DETECTOR
CONTROL
AGC
EQ
1
2
3
4
5
6
7
8
GND
NORM/HIGH (SPEED)
NORM/C
REC MUTE
AGC TC
AGC 1
REC IN1
REC OUT1

IC371 MLC4066B (Quad Electronic Switch)

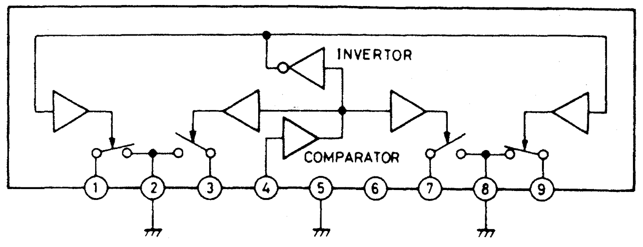

VDD
CNT1
CONT4
IN4
OUT4
OUT3
IN3
14
13
12
11
10
9
8
SW 4
SW 3
SW 1
SW 2
1
2
3
4
5
6
7
IN1
OUT1
OUT2
IN2
CNT2
CNT3
VSS

LOGIC DIAGRAM AND TRUTH TABLE


IN/OUT
OUT/IN
CNT
(CONTROL)

CONTROL	SWITCH
0=VSS	OFF
1=VDD	ON

IC375 µPC1330H (2-ch Head Select Switch)


INVERTOR
COMPARATOR
1
2
3
4
5
6
7
8
9

IC BLOCK DIAGRAM (AMPLIFIER)

IC500 µPD75516GF-412-3B9 (Micro Processor)

PIN No.	SIGNAL NAME	I/O	DESCRIPTION	ACTIV	P OFF
1	AN0	I	AD Key Input	---	---
2	AVref	I	Reference Voltage of AD	---	---
3	VDD	I	+5V	---	---
4	VDD(VPP)	I	Connect VDD for PROM	---	---
5	PULL UP 1	O	Set Pull up Signal of AVref Backup Time : LOW	H	H
6	L/R	O	L/R Selection Control for BA3826S	L	L
7	BAND RESET	O	Reset Control for BA3826S	H	L
8	BAND A	I/O	Band Pass A Control of BA3826S	L	L
9	BAND B	I/O	Band Pass B Control of BA3826S	L	L
10	BAND C	I/O	Band Pass C Control of BA3826S	L	L
11	BASS	O	BASS Xpander Control Signal (LED)	L	H
12	DO SURR ON/OFF	O	Dolby Surround Control Signal (LED)	L	H
13	REAR VOL UP	O	Rear Volume Up Signal	H	L
14	REAR VOL DOWN	O	Rear Volume Down Signal	H	L
15	CK7522	O	Equalizer Clock of LC7522	H	L
16	DI7522	O	Data In from LC7522	H	L
17	NC	I	Not Used (VSS)	---	---
18	DA7522	O	Data Signal to LC7522	H	L
19	CK7522	O	Clock Signal to LC7522	H	L
20	NC		Not Used (VSS)	---	---
21	CE7522	O	CE(Chip Enable) of LC7522	H	L
22	FUNC C	O	C Control Signal of Function IC BU4051	H	L
23	FUNC B	O	B Control Signal of Function IC BU4051	H	L
24	FUNC A	O	A Control Signal of Function IC BU4051	H	L
25	DO ON/OFF	O	Dolby ON/OFF Control Signal H : OFF L : ON	H	L
26	DO B/C	O	Dolby B/C Control Signal H : B L : C	H	L
27	SPEED	O	High Speed Signal for Motor H : HIGH	H	L
28	PLUNGER	O	Plunger ON Signal	H	L
29	KARAOKE	I	Not Used (VSS)	---	---
30	AMSS	I	Not Used (VSS)	---	---
31	PACK A	I	Pack A Detection Signal	L : ON	
32	STOP SW	I	Stop Switch Detection Signal	L : ON	
33	VSS	---	Ground	---	---
34	G REV	I	Anti Record Detection Signal for Reverse Direction	L : ON	
35	G FWD	I	Anti Record Detection Signal for Forward Direction	L : ON	
36	PACK B	I	Pack B Detection Signal	L : ON	
37	PLAY SW	I	Play Switch Detection Signal	L : ON	
38	PULL UP 2	O	Set Pull up Signal of AVref	H	L
39	MOTOR	O	Motor ON Signal	H	L
40	SP RELAY	O	Speaker Relay ON Signal	H	L
41	-20dB MUTE	O	-20dB Muting Signal	H	L
42	-∞ MUTE	O	-∞ Muting Signal	H	L
43	POWER ON	O	Power ON Signal	H	L
44	VOL UP	O	Volume Up Signal	H	L
45	VOL DOWN	O	Volume Down Signal	H	L
46	REEL B	I	Reel B Rotate Detection Signal (Edge)		
47	REEL A	I	Reel A Rotate Detection Signal (Edge)		
48	AMSS	I	Input of Music Brank Brank : L		
49	IR	I	Infrared Ray Receiving (Remocon) Signal		
50	CT DATA	I	Micon Data from CT Unit		
51	NC		Not Used (VSS)	---	---
52	CT CLK	I	Clock from CT Unit		
53	P DOWN	I	AC ON/OFF Detection Signal H : ON		
54	VSS	---	Ground		
55	NC	I	Not Used (VSS)		
56	XT2	O	Not Used (VSS)		
57	IC	---	Ground		
58	X1	I	X'tal In (4.19 MHz)		
59	X2	O	X'tal Out (4.19 MHz)		
60	RESET	I	Reset Signal	L	
61	BUSY	O	Busy Signal	H	L
62	OSC	O	OSC Signal	H : REC	L
63	REV IND	O	Reverse Indicator (LED) Signal	L	H
64	1/2 IND	O	Deck A/B Selection Signal	L : B	L

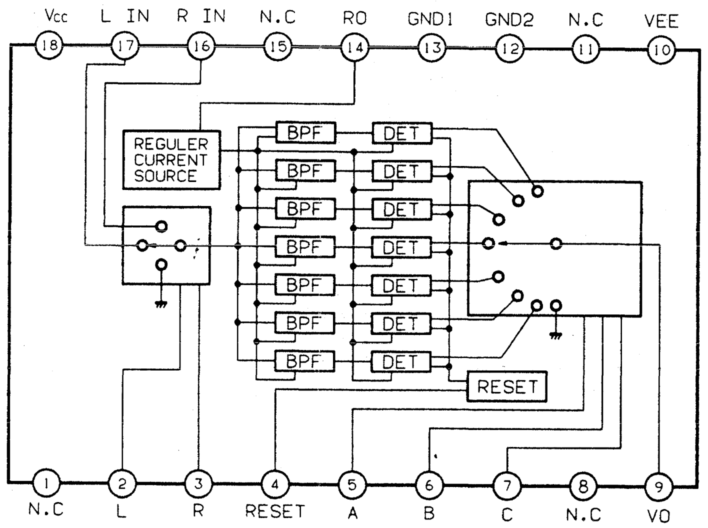
ACTIV : Active Level P OFF : Power Off Time Level

IC BLOCK DIAGRAM (AMPLIFIER)

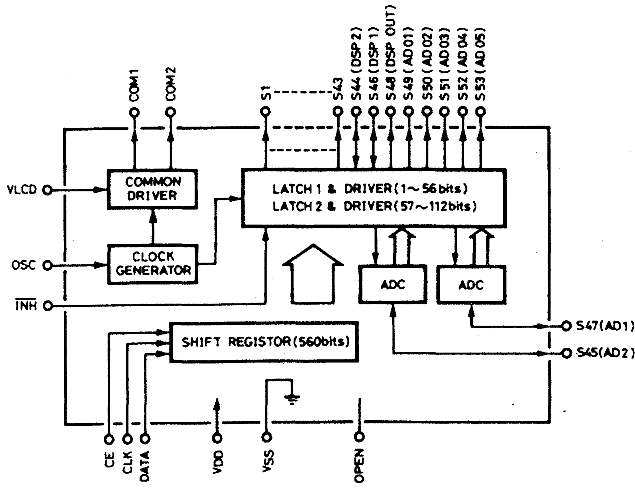
PIN No.	SIGNAL NAME	I/O	DESCRIPTION	ACTIV	P OFF
65	FOR IND	O	Forward Indicator (LED) Signal	L	H
66	DOLBY R/P	O	Dolby Rec/Play Control Signal	H : REC	L
67	C STOP	O	CD Stop Signal	L	H
68	DUB IN/OUT	O	Dubbing IN/OUT Selection Signal	L	H
69	P MUTE	O	Play Muting Signal	H	H
70	R MUTE	O	Record Muting Signal	H	H
71	REC IND	O	Record Indicator (LED) Signal	L	H
72	DISCO PARTY	O	Not Used (VSS)		
73	A-VSS		AD Ground	---	---
74	PHONO OR VIDEO	I	Not Used (VSS)		
75	MOTOR OR ELECT	I	Not Used (VDD)		
76	REMOCON KEY	I	Not Used (VDD)		
77	NC	I	Not Used (VSS)		
78	BAND LEVEL IN	I	Band Pass VO-IN from BA3826S		
79	VOL LEVEL DC IN	I	Volume Level DC OUT		
80	AN1	I	AD Key Input		

ACTIV : Active Level P OFF : Power Off Time Level

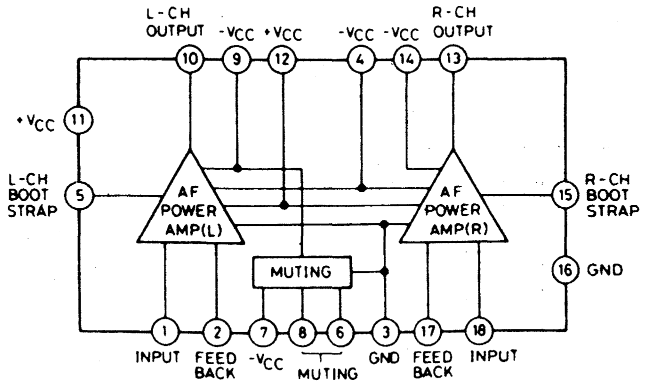
IC501 BA3826S (Band Pass Filter for Spectrum Analyzer)


Vcc
L IN
R IN
N.C
RO
GND1
GND2
N.C
VEE
18
17
16
15
14
13
12
11
10
REGULER CURRENT SOURCE
BPF
DET
RESET
1
2
3
4
5
6
7
8
9
N.C
L
R
RESET
A
B
C
N.C
VO

IC551 LC7582 (LCD Driver)

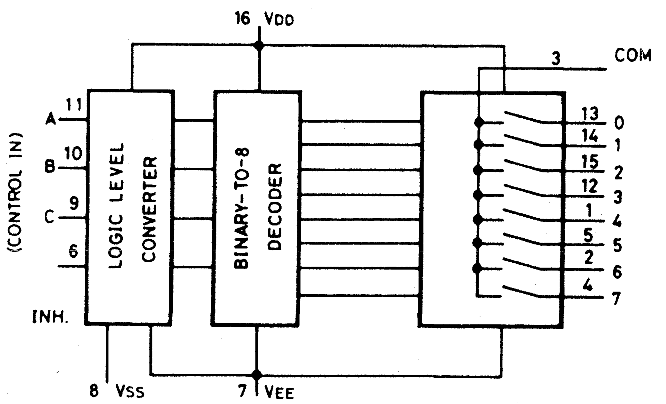

COM1
COM2
S1
S43
S44 (DSP 2)
S46 (DSP 1)
S48 (DSP OUT)
S49 (AD01)
S50 (AD02)
S51 (AD03)
S52 (AD04)
S53 (AD05)
VLCD
COMMON DRIVER
LATCH 1 & DRIVER (1~56bits)
LATCH 2 & DRIVER (57~112bits)
OSC
CLOCK GENERATOR
INH
ADC
ADC
SHIFT REGISTOR (560bits)
S47 (AD1)
S45 (AD2)
CE
CLK
DATA
VDD
VSS
OPEN

IC700 STK4162MKII (AF Power Amplifier)


L-CH OUTPUT
-VCC
+VCC
-VCC
-VCC
R-CH OUTPUT
10
9
12
4
14
13
+Vcc
11
L-CH BOOT STRAP
5
AF POWER AMP(L)
AF POWER AMP(R)
MUTING
R-CH BOOT STRAP
15
16
GND
1
2
7
8
6
3
17
18
INPUT
FEED BACK
-Vcc
MUTING
GND
FEED BACK
INPUT

IC BLOCK DIAGRAM (AMPLIFIER)

IC702・802 BU4051B (3-Input 8-Channel Multiplexer / De-Multiplexer)

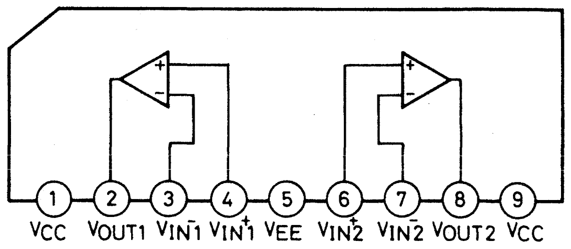

16 VDD
3 COM
(CONTROL IN)
A 11
B 10
C 9
6
INH.
LOGIC LEVEL CONVERTER
BINARY-TO-8 DECODER
13 0
14 1
15 2
12 3
1 4
5 5
2 6
4 7
8 VSS
7 VEE

TRUTH TABLE

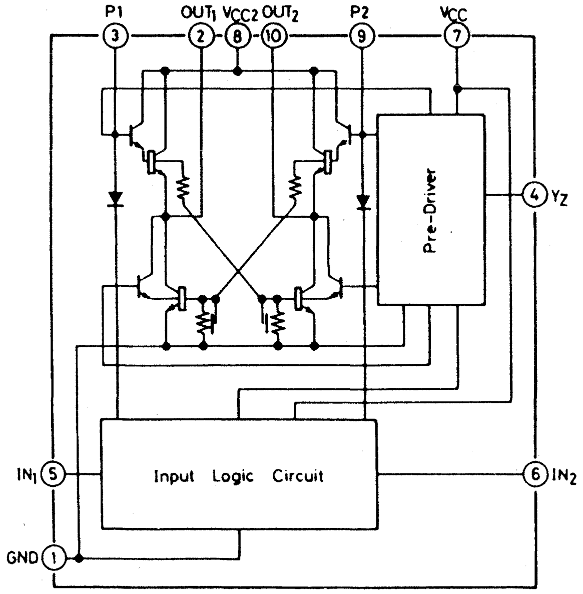
CONTROL INPUTS				(ON) CHANNEL
INHIBIT	C	B	A	4051
L	L	L	L	0
L	L	L	H	1
L	L	H	L	2
L	L	H	H	3
L	H	L	L	4
L	H	L	H	5
L	H	H	L	6
L	H	H	H	7
H	X	X	X	NONE

X : DON'T CARE

IC701・703・704・706・711 LA6458S (Dual Operational Amplifier)

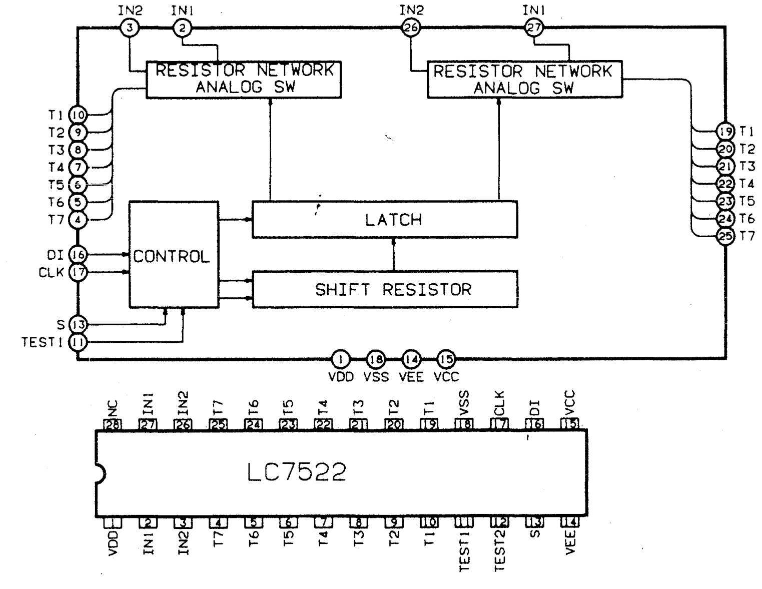

1
2
3
4
5
6
7
8
9
VCC
VOUT1
VIN1-
VIN1+
VEE
VIN2+
VIN2-
VOUT2
VCC

IC707 LB1641 (Volume Motor Driver)


P1
OUT1
VCC2
OUT2
P2
VCC
3
2
8
10
9
7
Pre-Driver
4
Y2
IN1
5
Input Logic Circuit
6
IN2
GND
1

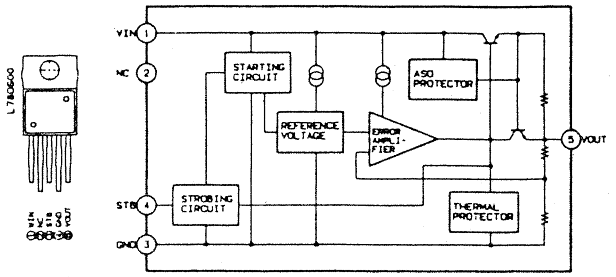
Input		Output		Action
IN_1	IN_2	OUT_1	OUT_2	
0	0	0	0	Brake
1	0	1	0	Normal(Reverse)Rotary
0	1	0	1	Reverse(Normal)Rotary
1	1	0	0	Brake

IC705 LC7522 (7-Segment Electronic Variable Resistor)

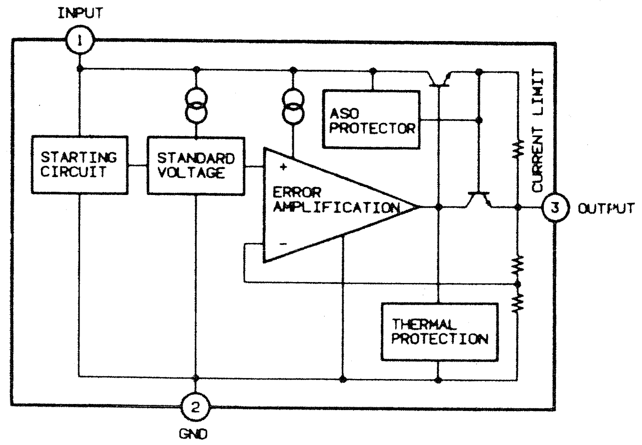

IN2
IN1
3
2
IN2
IN1
26
27
RESISTOR NETWORK ANALOG SW
RESISTOR NETWORK ANALOG SW
T1 10
T2 9
T3 8
T4 7
T5 6
T6 5
T7 4
19 T1
20 T2
21 T3
22 T4
23 T5
24 T6
25 T7
LATCH
DI 16
CLK 17
CONTROL
SHIFT RESISTOR
S 13
TEST1 11
1 VDD
18 VSS
14 VEE
15 VCC
NC 28
IN1 27
IN2 26
T7 25
T6 24
T5 23
T4 22
T3 21
T2 20
T1 19
VSS 18
CLK 17
DI 16
VCC 15
LC7522
VDD 1
IN1 2
IN2 3
T7 4
T6 5
T5 6
T4 7
T3 8
T2 9
T1 10
TEST1 11
TEST2 12
S 13
VEE 14

IC BLOCK DIAGRAM (AMPLIFIER)

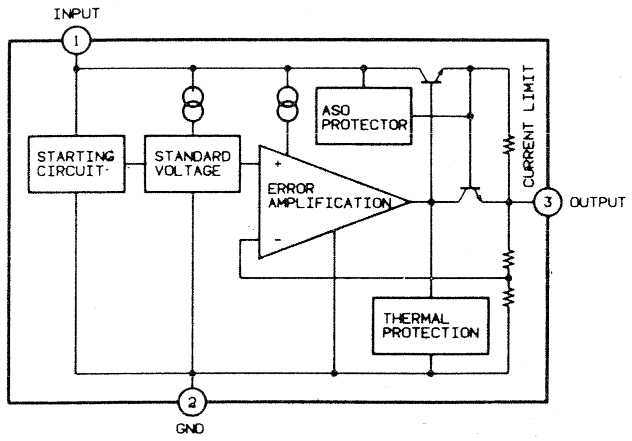
IC900・903 L78OS12 (5-Terminal Voltage Regulator)


L78OS00
VIN
NC
STB
GND
VOUT
1
2
3
4
5
STARTING CIRCUIT
REFERENCE VOLTAGE
ERROR AMPLI-FIER
ASO PROTECTOR
STROBING CIRCUIT
THERMAL PROTECTOR

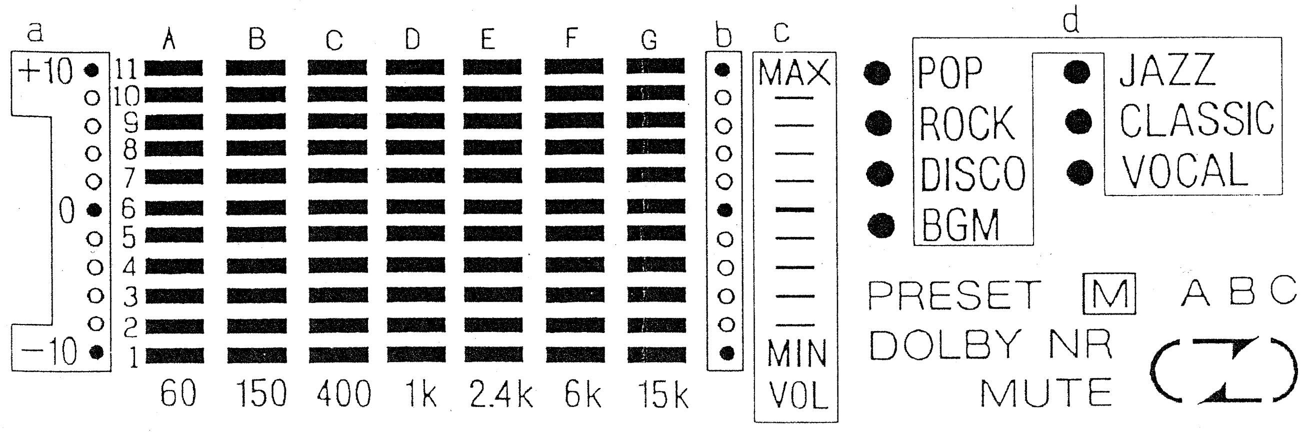
IC901 L78M05 (3-Terminal Voltage Regulator)

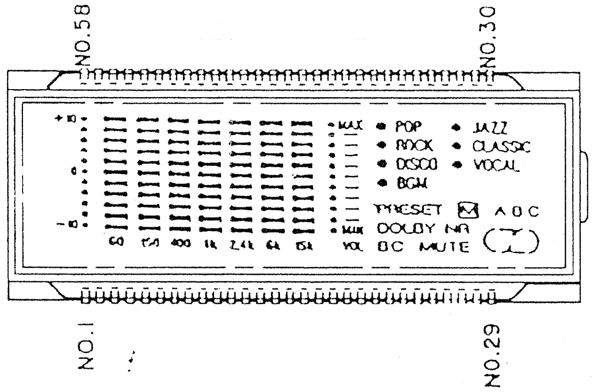

INPUT
1
STARTING CIRCUIT
STANDARD VOLTAGE
ASO PROTECTOR
ERROR AMPLIFICATION
+
-
CURRENT LIMIT
3
OUTPUT
THERMAL PROTECTION
2
GND

IC902 L7812ML (3-Terminal Voltage Regulator)


INPUT
1
STARTING CIRCUIT
STANDARD VOLTAGE
ASO PROTECTOR
ERROR AMPLIFICATION
+
-
CURRENT LIMIT
3
OUTPUT
THERMAL PROTECTION
2
GND

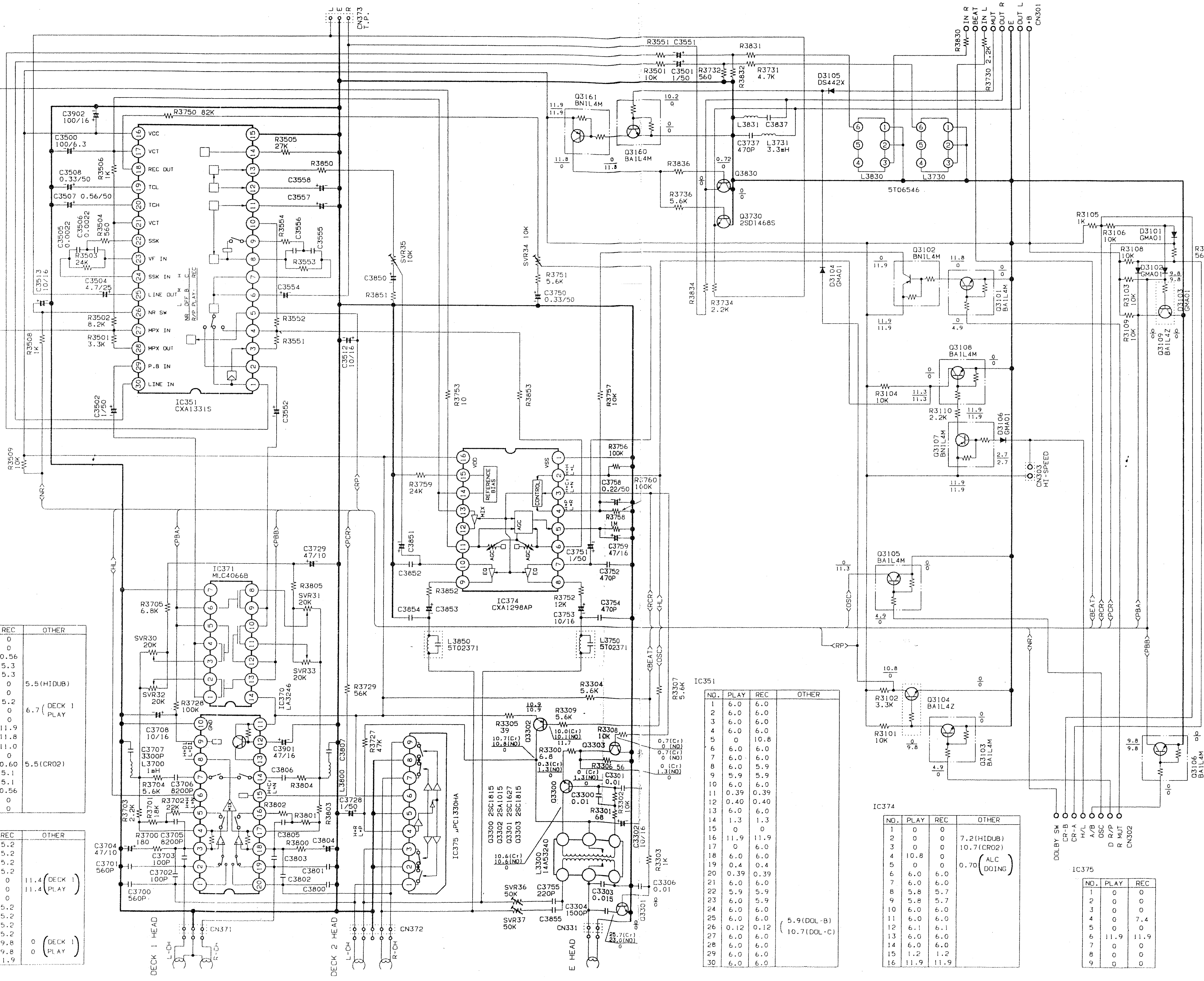
LCD (SPECTRUM ANALYZER)


a
A
B
C
D
E
F
G
b
c
d
+10
0
-10
11
10
9
8
7
6
5
4
3
2
1
60
150
400
1k
2.4k
6k
15k
MAX
MIN
VOL
POP
ROCK
DISCO
BGM
JAZZ
CLASSIC
VOCAL
PRESET
M
A B C
DOLBY NR
MUTE


NO.58
NO.30
NO.1
NO.29

NO.	COM. 1	COM. 2
1		a
2	A5	B5
3	A4	B4
4	A3	B3
5	A2	B2
6	A1	B1
7		60・150
8	C5	D5
9	C4	D4
10	C3	D3
11	C2	D2
12		400・1K
13	C1	D1
14	E5	F5
15	E4	F4
16	E3	F3
17		2.4K・6K
18	E2	F2
19	E1	F1
20	G4	
21	G3	
22	G1	15K
23	G2	c
24		b
25	G5	DOLBY NR
26	G6	PRESET
27	(	MUTE
28	→	←
29	M	)
30	A	● (JAZZ)
31	B	● (CLAS)
32	C	● (VOCA)
33		● (KARA)
34	G7	d
35	G8	● (BGM)
36	G9	● (DISC)
37	G10	● (ROCK)
38	G11	● (POP)
39	E8	F8
40	E9	F9
41	E10	F10
42	E11	F11
43	E7	F7
44	E6	F6
45	C9	D9
46	C9	D9
47	C10	D10
48	C11	D11
49	C8	D8
50	C7	D7
51	C6	D6
52	A10	B10
53	A11	B11
54	A8	B8
55	A7	B7
56	A6	B6
57	COM. 1	
58		COM. 2

SCHEMATIC DIAGRAM (TAPE DECK AMPLIFIER)



CN373 T.P.
L E R
R3750 82K
C3902 100/16
C3500 100/6.3
C3508 0.33/50
C3507 0.56/50
R3506 1K
R3505 27K
R3850
C3558
C3557
R3554
C3556
C3555
R3553
C3554
R3552
R3551
VCC
VCT
REC OUT
TCL
TCH
SSK
VF IN
SSK IN
LINE OUT
NR SW
MPX IN
MPX OUT
P.B IN
LINE IN
IC351 CXA1331S
C3502 1/50
C3552
C3512 10/16
C3513 10/16
R3508 1K
R3509 10K
R3502 8.2K
R3501 3.3K
C3504 4.7/25
R3503 24K
C3505 0.0022
C3506 0.0022
R3504 560
SVR35 10K
C3850
R3851
SVR34 10K
R3751 5.6K
C3750 0.33/50
R3753 10
R3853
R3757 10K
R3756 100K
R3759 24K
C3758 0.22/50
R3760 100K
R3758 1M
C3759 47/16
C3751 1/50
C3752 470P
C3851
C3852
R3852
C3854
C3853
IC374 CXA1298AP
R3752 12K
C3753 10/16
C3754 470P
REFERENCE BIAS
CONTROL
MIX
AGC
EQ
VDD
VSS
L3850 5T02371
L3750 5T02371
R3551 C3551
R3501 C3501 10K 1/50
R3732 560
R3832
R3831
R3731 4.7K
Q3161 BN1L4M
Q3160 BA1L4M
R3836
R3736 5.6K
Q3830
Q3730 2SD1468S
L3831 C3837
C3737 470P
L3731 3.3mH
D3105 DS442X
L3830
L3730
5T06546
R3834
R3734 2.2K
D3104 GMA01
R3830
R3730 2.2K
IN R
BEAT
IN L
MUT
OUT R
E
OUT L
+B
CN301
VOLTAGE (V)
DECK 2 REC
DECK 2 PLAY
R3105 1K
R3106 10K
D3101 GMA01
R3108 10K
D3102 GMA01
R3107 56K
Q3102 BN1L4M
Q3101 BA1L4M
R3103 10K
D3103 GMA01
R3109 10K
Q3109 BA1L4Z
Q3108 BA1L4M
R3104 10K
R3110 2.2K
D3106 GMA01
Q3107 BN1L4M
CN303 HI-SPEED
Q3105 BA1L4M
R3102 3.3K
Q3104 BA1L4Z
R3101 10K
Q3103 BA1L4M
Q3106 BA1L4M
DOLBY SW
CR-B
CR-A
H/L
A/B
OSC
D R/P
R MUT
CN302
<NR>
<PBA>
<PBB>
<PCR>
<RP>
<HL>
<BEAT>
<OSC>
<RCR>
C3729 47/10
IC371 MLC4066B
R3805
SVR31 20K
R3705 6.8K
SVR30 20K
SVR33 20K
SVR32 20K
R3728 100K
IC370 LA3246
R3729 56K
C3708 10/16
C3707 3300P
L3700 1mH
R3704 5.6K
C3706 8200P
R3703 2.2K
R3701 18K
R3702 22K
R3700 180
C3705 8200P
C3703 100P
C3702 100P
C3704 47/10
C3701 560P
C3700 560P
C3901 47/16
C3806
R3804
R3802
R3801
R3803
C3805
R3800
C3804
C3803
C3801
C3802
C3800
C3807
L3800
C3728 1/50
R3727 47K
IC375 μPC1330HA
Q3300 2SC1815
Q3302 2SA1015
Q3301 2SC1627
Q3303 2SC1815
R3304 5.6K
R3307 5.6K
R3309 5.6K
R3305 39
R3300 6.8
R3308 10K
R3306 56
C3301 0.01
C3300 0.01
R3301 68
R3302 10K
C3302 10/16
R3303 1K
C3306 0.01
L3300 14A53240
SVR36 50K
C3755 220P
SVR37 50K
C3855
C3304 1500P
C3303 0.015
CN331
CN371
CN372
DECK 1 HEAD
DECK 2 HEAD
E HEAD
L-CH
R-CH

IC370

NO.	PLAY	REC	OTHER
1	0	0	
2	0	0	
3	0.58	0.56	
4	5.3	5.3	
5	5.3	5.3	
6	0	0	5.5(HIDUB)
7	0	0	
8	5.2	5.2	6.7 (DECK 1 PLAY
9	0	0	
10	0	0	
11	11.9	11.9	
12	11.8	11.8	
13	11.0	11.0	
14	0	0	
15	0.60	0.60	5.5(CRO2)
16	5.1	5.1	
17	5.1	5.1	
18	0.56	0.56	
19	0	0	
20	0	0	

IC731

NO.	PLAY	REC	OTHER
1	5.2	5.2	
2	5.2	5.2	
3	5.2	5.2	
4	5.2	5.2	
5	0	0	11.4 (DECK 1
6	0	0	11.4 PLAY)
7	0	0	
8	5.2	5.2	
9	5.2	5.2	
10	5.2	5.2	
11	5.2	5.2	
12	9.8	9.8	0 (DECK 1
13	9.8	9.8	0 PLAY)
14	11.9	11.9	

IC351

NO.	PLAY	REC	OTHER
1	6.0	6.0	
2	6.0	6.0	
3	6.0	6.0	
4	6.0	6.0	
5	0	10.8	
6	6.0	6.0	
7	6.0	6.0	
8	6.0	5.9	
9	5.9	5.9	
10	6.0	6.0	
11	0.39	0.39	
12	0.40	0.40	
13	6.0	6.0	
14	1.3	1.3	
15	0	0	
16	11.9	11.9	
17	0	6.0	
18	6.0	6.0	
19	0.4	0.4	
20	0.39	0.39	
21	6.0	6.0	
22	5.9	5.9	
23	6.0	5.9	
24	6.0	6.0	
25	6.0	6.0	(5.9(DOL-B)
26	0.12	0.12	10.7(DOL-C)
27	6.0	6.0	
28	6.0	6.0	
29	6.0	6.0	
30	6.0	6.0	

IC374

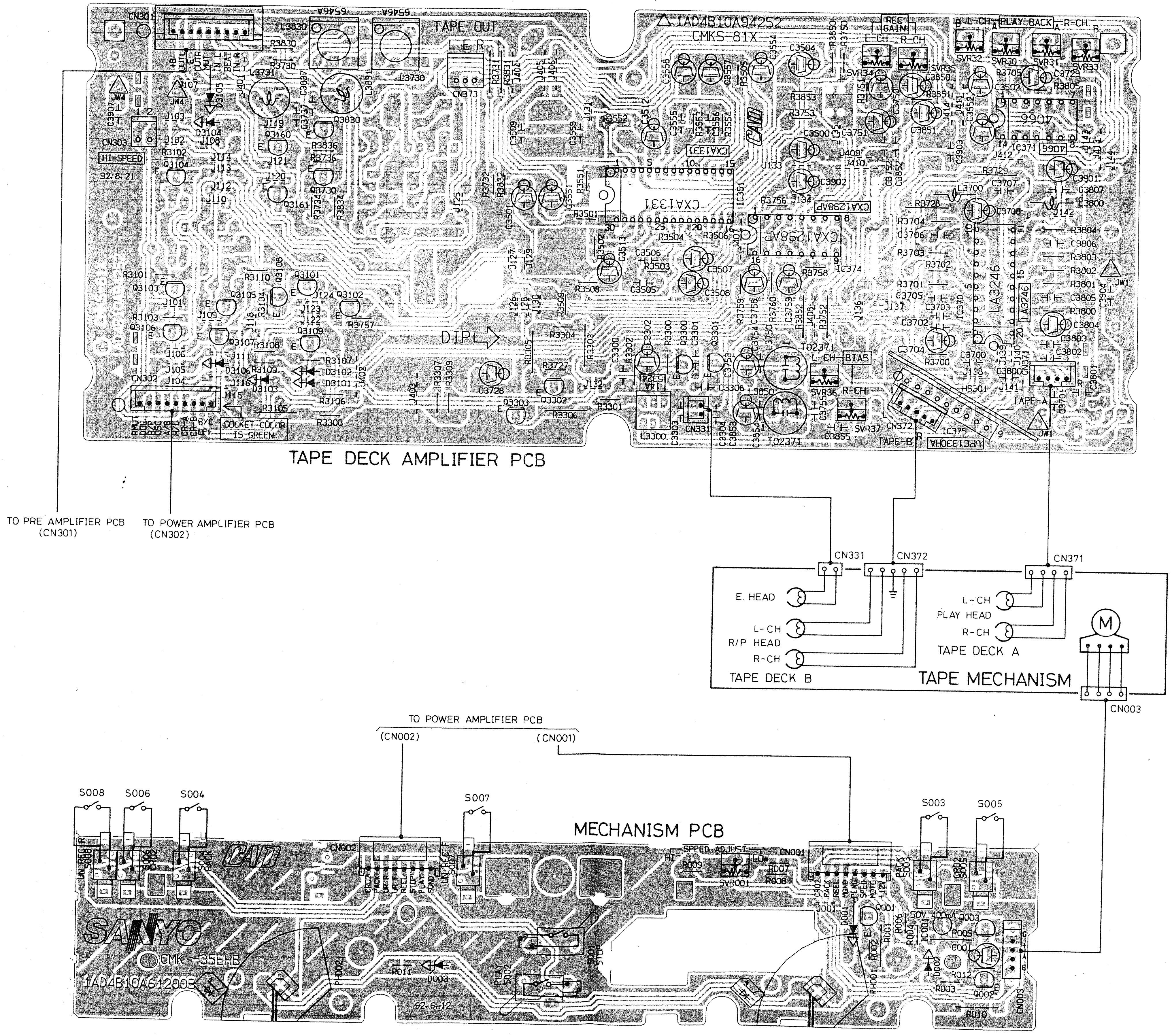
NO.	PLAY	REC	OTHER
1	0	0	
2	0	0	7.2(HIDUB)
3	0	0	10.7(CRO2)
4	10.8	0	0.70 (ALC
5	0	0	DOING)
6	6.0	6.0	
7	6.0	6.0	
8	5.8	5.7	
9	5.8	5.7	
10	6.0	6.0	
11	6.0	6.0	
12	6.1	6.1	
13	6.0	6.0	
14	6.0	6.0	
15	1.2	1.2	
16	11.9	11.9	

IC375

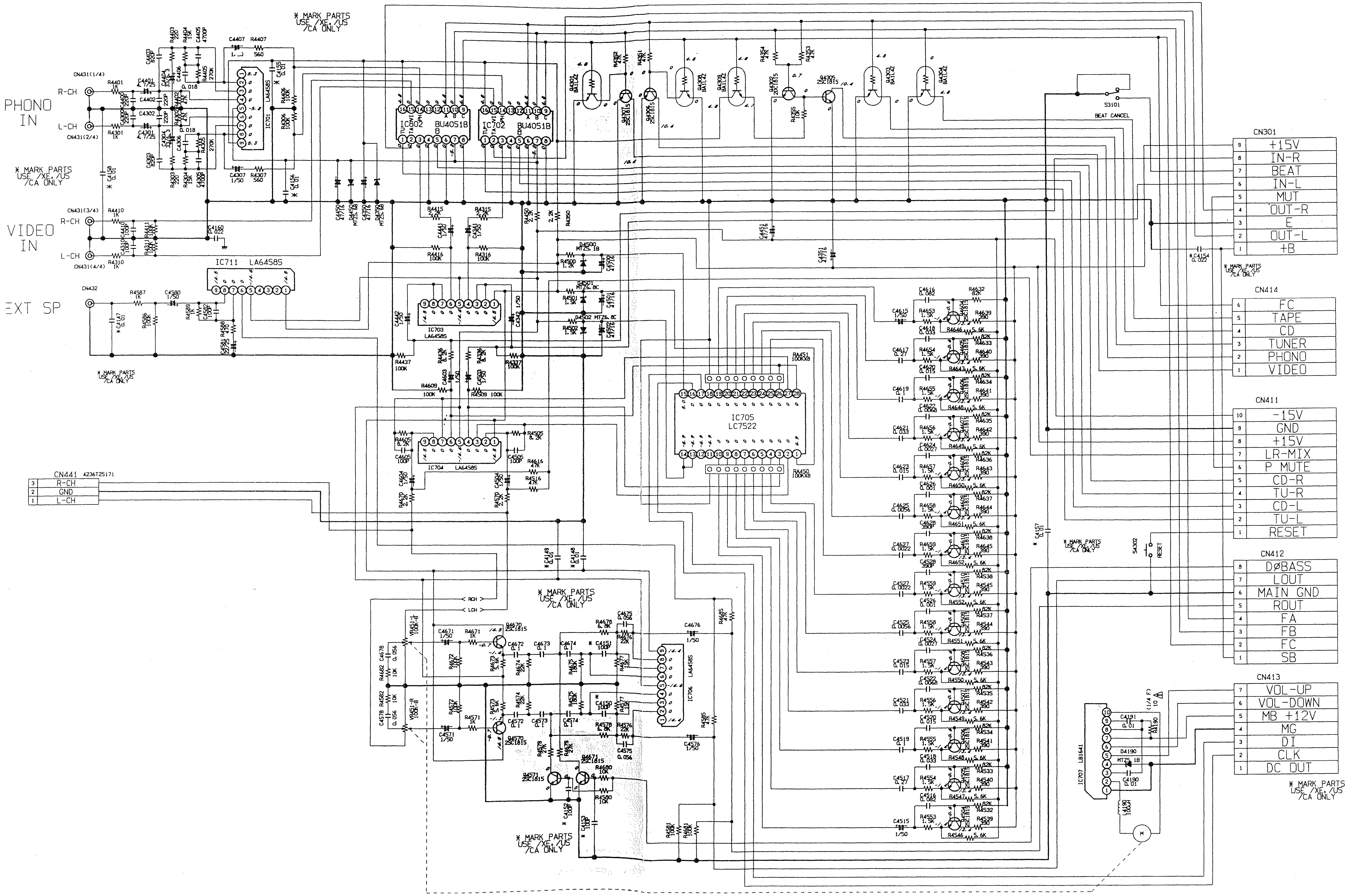
NO.	PLAY	REC
1	0	0
2	0	0
3	0	0
4	0	7.4
5	0	0
6	11.9	11.9
7	0	0
8	0	0
9	0	0

COMMON USE
Q3300
2SC1815 or 2SC945
Q3303
2SC1815 or 2SC945 or 2SC1740S
Q3302
2SA1015 or 2SA733
Q3101 3103 3105 3106 3108
3160
DTC144ES or RN1204 or BA1L4M
Q3102 3107 3161
DTA144ES or RN2204 or BN1L4M
Q3104 3109
DTC144TS or BA1L4Z
D3101 3102 3103 3104 3105
GMA01 or 1SS133
D3105
DS442X or 1S2473
IC371
MLC4066B or TC4066BP
or BU4066B or μPD4066BC

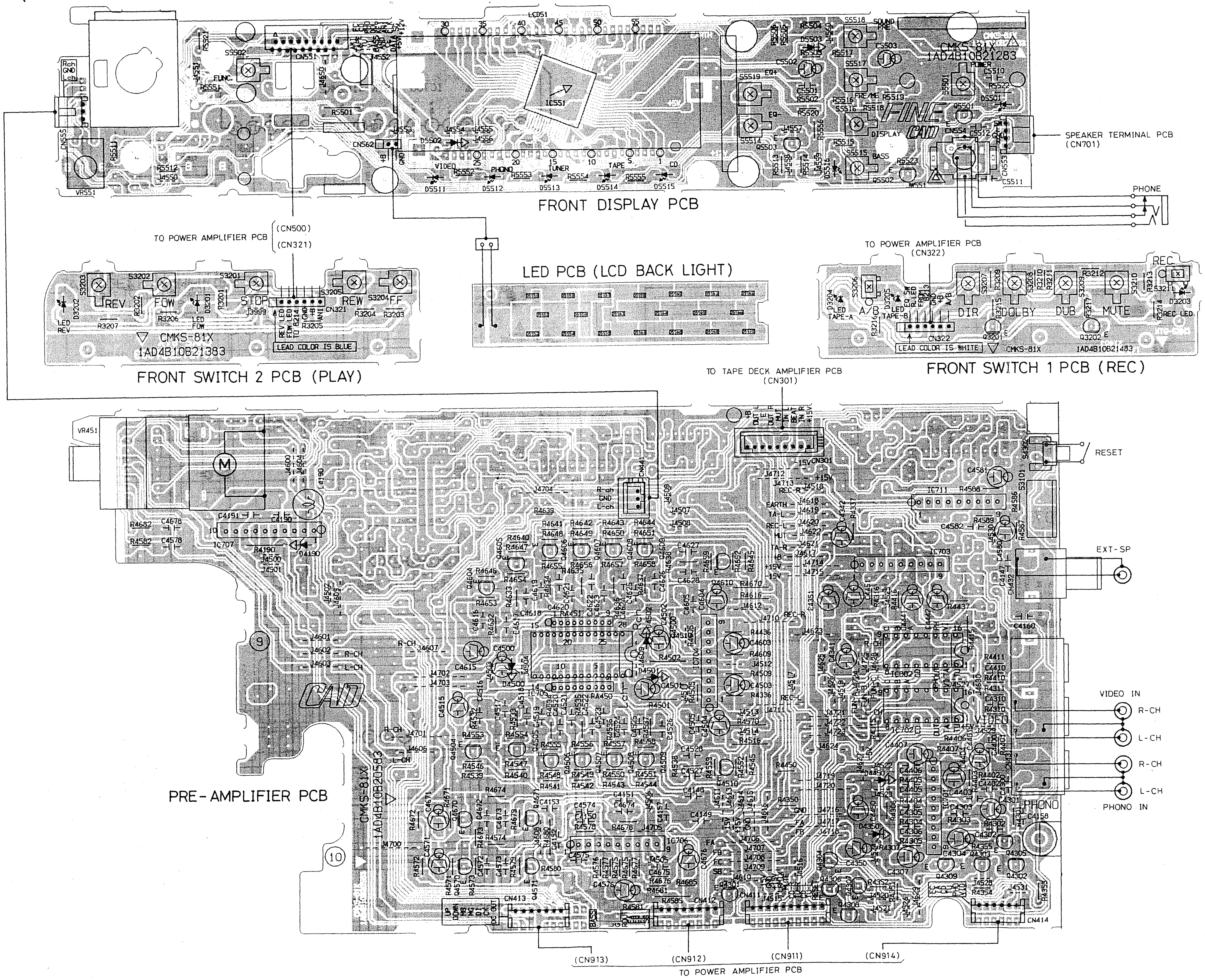
WIRING DIAGRAM (TAPE DECK AMPLIFIER)


TAPE DECK AMPLIFIER PCB
TO PRE AMPLIFIER PCB
(CN301)
TO POWER AMPLIFIER PCB
(CN302)
1AD4B10A94252
CMKS-81X
TAPE OUT
HI-SPEED
SOCKET COLOR IS GREEN
DIP
REC GAIN
PLAY BACK
L-CH
R-CH
BIAS
CXA1331
CXA1298AP
LA3246
CN301
CN302
CN303
CN373
CN331
CN372
CN371
E. HEAD
L-CH
R/P HEAD
R-CH
TAPE DECK B
L-CH
PLAY HEAD
R-CH
TAPE DECK A
TAPE MECHANISM
M
CN003
TO POWER AMPLIFIER PCB
(CN002)
(CN001)
MECHANISM PCB
S008
S006
S004
S007
S003
S005
SPEED ADJUST
HI
LOW
SVR001
SANYO
CMK-35EHB
1AD4B10A61200B
CN002
CN001

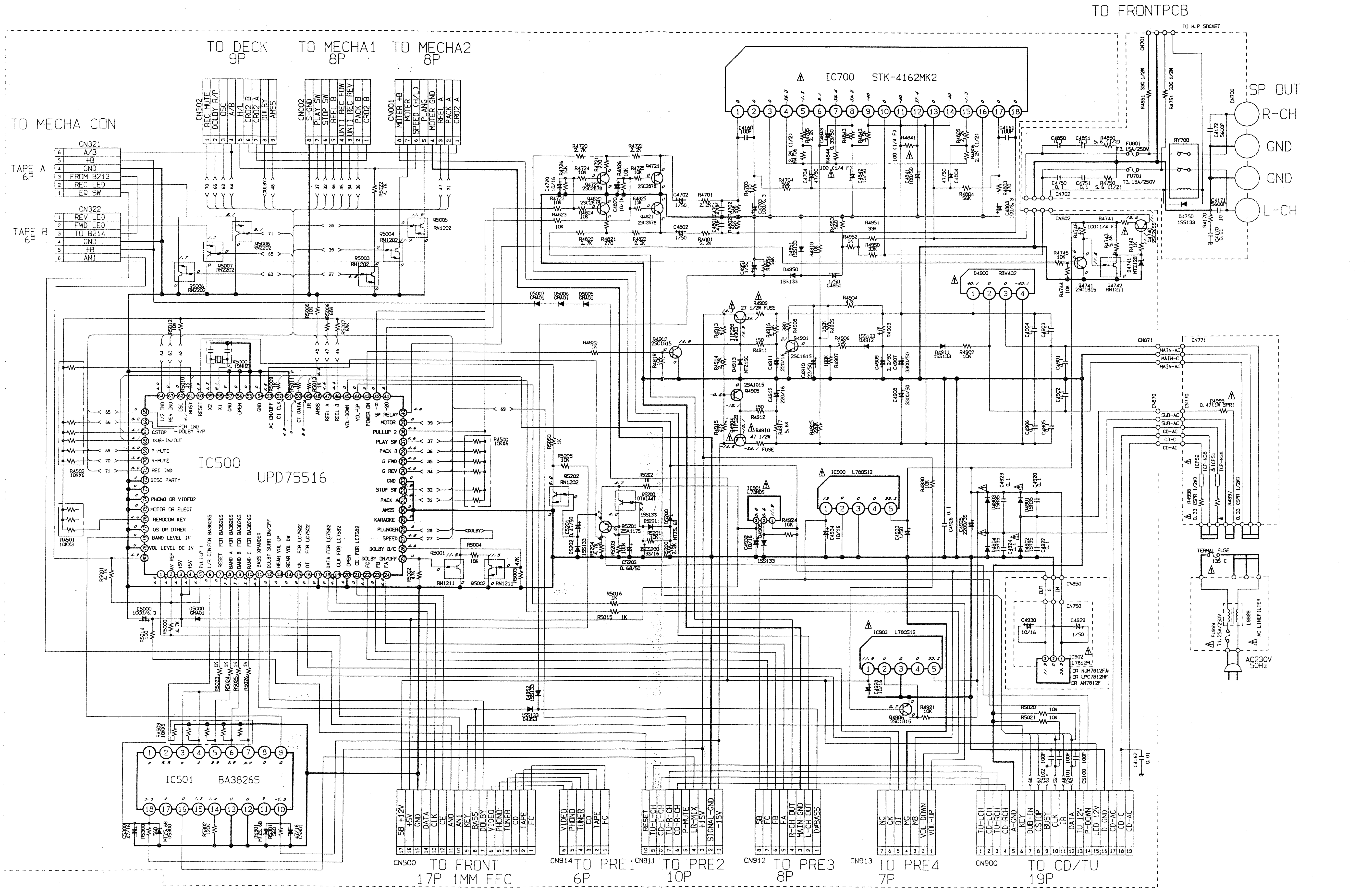
SCHEMATIC DIAGRAM (PRE-AMPLIFIER)


※ MARK PARTS USE /XE, /US /CA ONLY
PHONO IN
R-CH
L-CH
CN431(1/4)
CN431(2/4)
VIDEO IN
CN431(3/4)
CN431(4/4)
EXT SP
CN432
IC711 LA6458S
IC701 LA6458S
IC802 BU4051B
IC702 BU4051B
IC703 LA6458S
IC704 LA6458S
IC705 LC7522
IC706 LA6458S
IC707 LB1641
S3101
BEAT CANCEL
S4302
RESET
CN441 4236T2S171
3 R-CH
2 GND
1 L-CH
RCH
LCH
CN301
9 +15V
8 IN-R
7 BEAT
6 IN-L
5 MUT
4 OUT-R
3 E
2 OUT-L
1 +B
CN414
6 FC
5 TAPE
4 CD
3 TUNER
2 PHONO
1 VIDEO
CN411
10 -15V
9 GND
8 +15V
7 LR-MIX
6 P MUTE
5 CD-R
4 TU-R
3 CD-L
2 TU-L
1 RESET
CN412
8 DØBASS
7 LOUT
6 MAIN GND
5 ROUT
4 FA
3 FB
2 FC
1 SB
CN413
7 VOL-UP
6 VOL-DOWN
5 MB +12V
4 MG
3 DI
2 CLK
1 DC OUT
M
D4190 MTZ5.1B
R4451 100KX8
R4450 100KX8

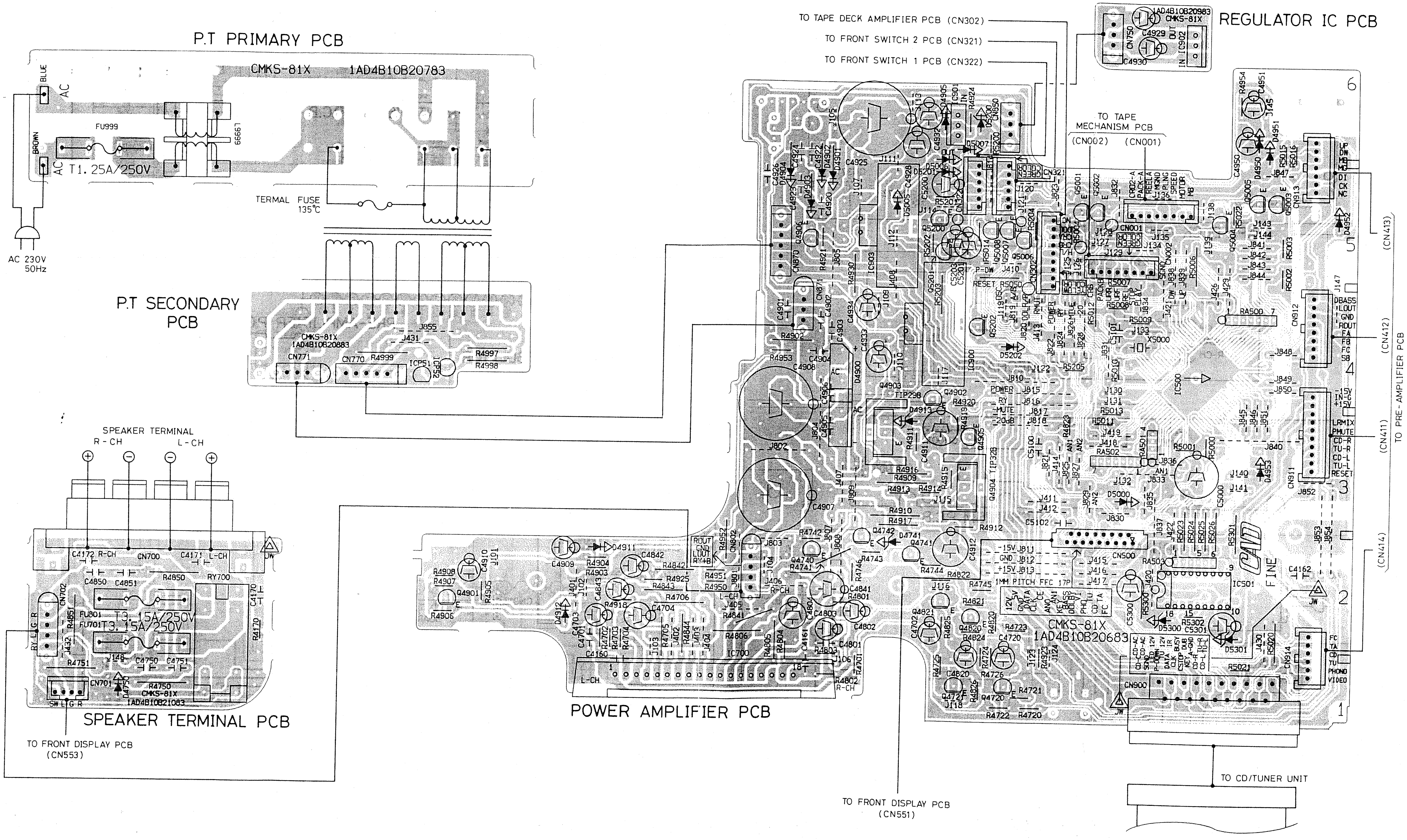
WIRING DIAGRAM (PRE-AMPLIFIER & FRONT)


FRONT DISPLAY PCB
SPEAKER TERMINAL PCB (CN701)
PHONE
TO POWER AMPLIFIER PCB (CN500) (CN321)
LED PCB (LCD BACK LIGHT)
TO POWER AMPLIFIER PCB (CN322)
FRONT SWITCH 2 PCB (PLAY)
FRONT SWITCH 1 PCB (REC)
LEAD COLOR IS BLUE
LEAD COLOR IS WHITE
CMKS-81X
1AD4B10B21383
1AD4B10B21283
TO TAPE DECK AMPLIFIER PCB (CN301)
RESET
EXT-SP
VIDEO IN
R-CH
L-CH
R-CH
L-CH
PHONO IN
PRE-AMPLIFIER PCB
CMKS-81X
1AD4B10B20583
(CN913)
(CN912)
(CN911)
(CN914)
TO POWER AMPLIFIER PCB

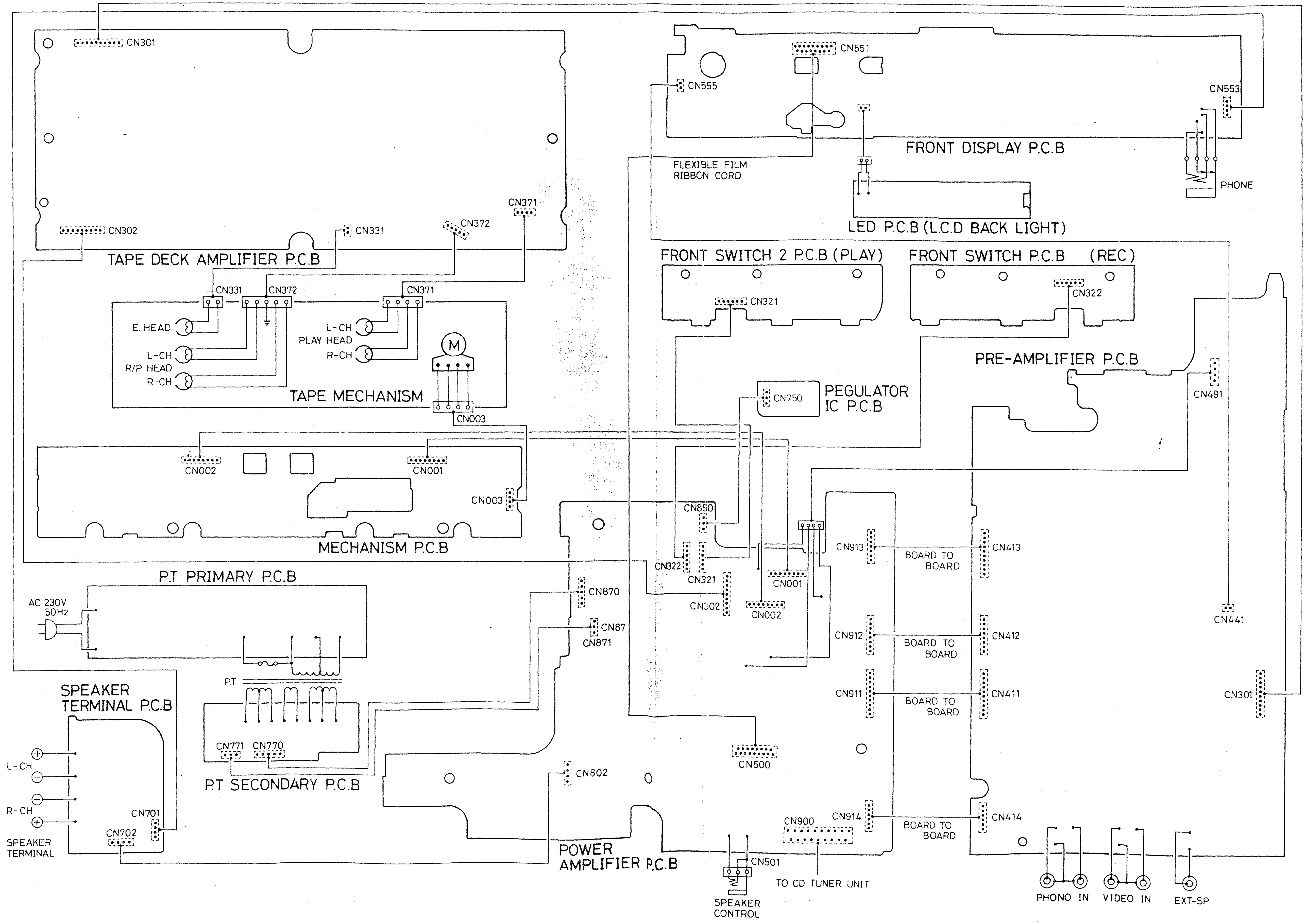
SCHEMATIC DIAGRAM (SYSCON & POWER AMPLIFIER)


TO FRONTPCB
TO DECK 9P
TO MECHA1 8P
TO MECHA2 8P
TO MECHA CON
CN321
TAPE A 6P
A/B
+B
GND
FROM B213
REC LED
EQ SW
CN322
TAPE B 6P
REV LED
FWD LED
TO B214
GND
+B
AN1
CN302
REC MUTE
DOLBY R/P
OSC
A/B
H/L
CRO2 B
CRO2 A
DOLBY
AMSS
CN002
S-GND
PLAY SW
STOP SW
REEL B
UNTI REC FOW
UNTI REC REV
PACK B
CRO2 B
CN001
MOTER +B
MOTER
SPEED (H/L)
PLANG
MOTER GND
REEL A
PACK A
CRO2 A
IC700 STK-4162MK2
SP OUT
R-CH
GND
GND
L-CH
RY700
FU801 T3.15A/250V
FU701 T3.15A/250V
CN702
CN802
D4900 RBV402
IC500
UPD75516
X5000 4.19MHZ
SP RELAY
MOTOR
PULLUP 2
PLAY SW
PACK B
G FWD
G REV
GND
STOP SW
PACK A
AMSS
KARAOKE
PLUNGER
SPEED
DOLBY B/C
DOLBY ON/OFF
CSTOP
DUB-IN/OUT
P-MUTE
R-MUTE
REC IND
DISC PARTY
PHONO OR VIDEO2
MOTOR OR ELECT
REMOCON KEY
US OR OTHER
BAND LEVEL IN
VOL LEVEL DC IN
RA500 10KX6
RA502 10KX6
RA501 10KX3
IC900 L78OS12
IC901 L78M05
IC903 L78OS12
IC902 L7812M OR NJM7812FA OR UPC7812HF OR AN7812F
CN871
CN771
MAIN-AC
MAIN-C
MAIN-AC
CN870
CN770
SUB-AC
SUB-AC
CD-AC
CD-C
CD-AC
CN850
CN750
TERMAL FUSE 135 C
FU999 T1.25A/250V
L999 AC LINEFILTER
AC230V 50Hz
IC501 BA3826S
CN500 TO FRONT 17P 1MM FFC
SB +12V
+5V
GND
DATA
CLK
CE
AN0
AN1
KEY
BASS
DOLBY
VIDEO
PHONO
TUNER
CD
TAPE
FC
CN914 TO PRE1 6P
VIDEO
PHONO
TUNER
CD
TAPE
FC
CN911 TO PRE2 10P
RESET
TU-L-CH
CD-L-CH
TU-R-CH
CD-R-CH
P-MUTE
LR-MIX
+15V
SIGNAL-GND
-15V
CN912 TO PRE3 8P
SB
FC
FB
FA
R-CH OUT
MAIN-GND
L-CH OUT
D-BASS
CN913 TO PRE4 7P
NC
CK
DI
MB
MA
VOL-DOWN
VOL-UP
CN900 TO CD/TU 19P
TU-LCH
CD-LCH
TU-RCH
CD-RCH
A-GND
KEY
DUB-IN
CSTOP
BUSY
CLK
IR
DATA
TU 12V
P-DOWN
LED 12V
D-GND
CD-AC
CD-C
CD-AC

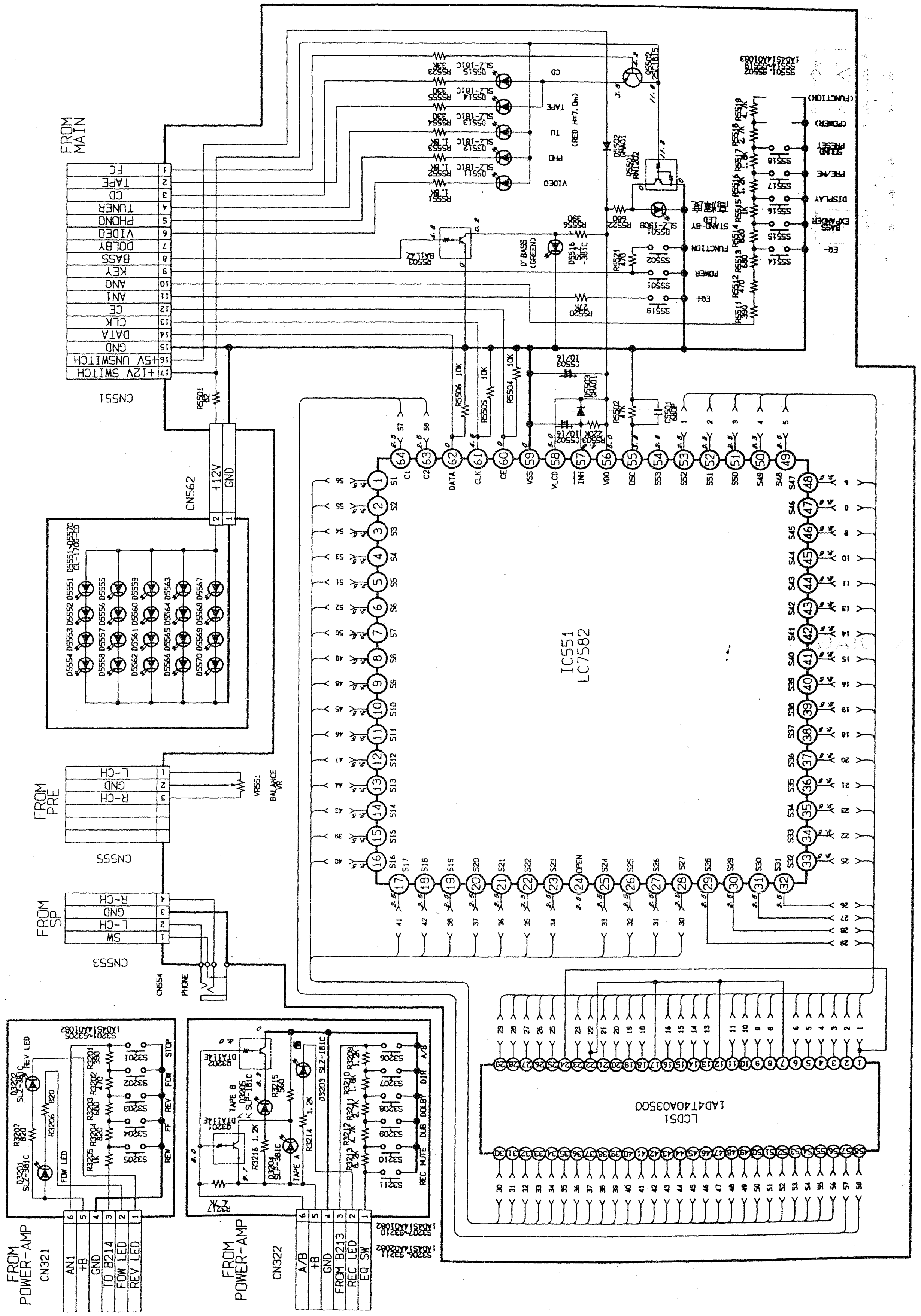
WIRING DIAGRAM (POWER AMPLIFIER)


P.T PRIMARY PCB
CMKS-81X
1AD4B10B20783
BLUE
BROWN
AC
FU999
T1. 25A/250V
AC 230V
50Hz
TERMAL FUSE
135℃
P.T SECONDARY PCB
CMKS-81X
1AD4B10B20883
CN771
CN770
SPEAKER TERMINAL
R-CH
L-CH
SPEAKER TERMINAL PCB
CMKS-81X
1AD4B10B21083
T3. 15A/250V
TO FRONT DISPLAY PCB
(CN553)
POWER AMPLIFIER PCB
CMKS-81X
1AD4B10B20683
TO FRONT DISPLAY PCB
(CN551)
TO CD/TUNER UNIT
REGULATOR IC PCB
CMKS-81X
1AD4B10B20983
TO TAPE DECK AMPLIFIER PCB (CN302)
TO FRONT SWITCH 2 PCB (CN321)
TO FRONT SWITCH 1 PCB (CN322)
TO TAPE MECHANISM PCB
(CN002)
(CN001)
TO PRE-AMPLIFIER PCB
(CN413)
(CN412)
(CN411)
(CN414)
1MM PITCH FFC 17P
CN900
CN500
IC500
IC501
FINE

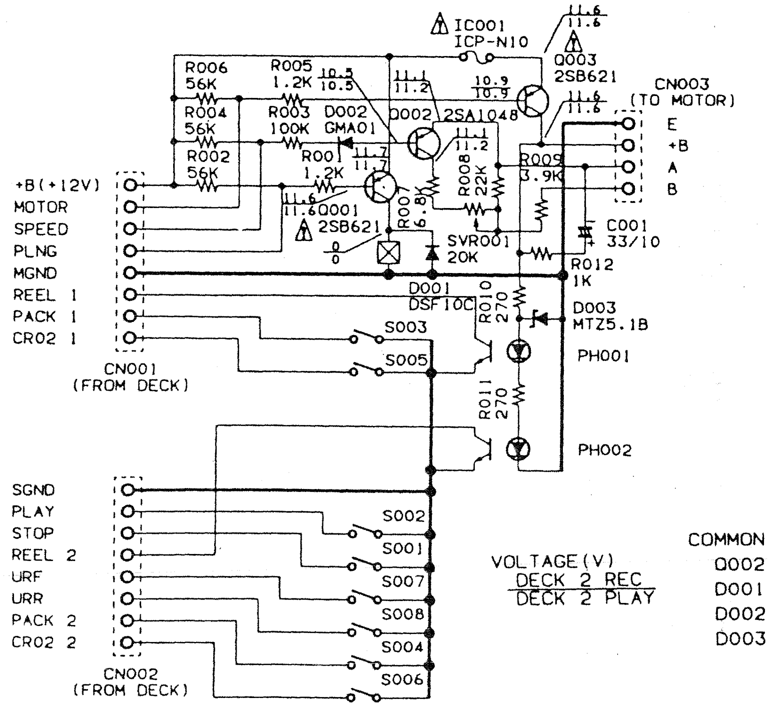
WIRING CONNECTION (TAPE DECK / AMPLIFIER UNIT)


CN301
CN302
CN331
CN372
CN371
TAPE DECK AMPLIFIER P.C.B
CN331
CN372
CN371
E. HEAD
L-CH
R/P HEAD
R-CH
L-CH
PLAY HEAD
R-CH
M
TAPE MECHANISM
CN003
CN002
CN001
CN003
MECHANISM P.C.B
P.T PRIMARY P.C.B
AC 230V
50Hz
P.T
CN771
CN770
P.T SECONDARY P.C.B
SPEAKER
TERMINAL P.C.B
L-CH
R-CH
SPEAKER
TERMINAL
CN701
CN702
CN551
CN555
CN553
FRONT DISPLAY P.C.B
FLEXIBLE FILM
RIBBON CORD
PHONE
LED P.C.B (L.C.D BACK LIGHT)
FRONT SWITCH 2 P.C.B (PLAY)
FRONT SWITCH P.C.B (REC)
CN321
CN322
PRE-AMPLIFIER P.C.B
CN491
CN750
PEGULATOR
IC P.C.B
CN850
CN322
CN321
CN302
CN001
CN002
CN870
CN87
CN871
CN913
BOARD TO
BOARD
CN413
CN912
BOARD TO
BOARD
CN412
CN911
BOARD TO
BOARD
CN411
CN441
CN301
CN500
CN802
CN900
CN914
BOARD TO
BOARD
CN414
POWER
AMPLIFIER P.C.B
CN501
TO CD TUNER UNIT
SPEAKER
CONTROL
PHONO IN
VIDEO IN
EXT-SP

SCHEMATIC DIAGRAM (FRONT)


FROM MAIN
FC
TAPE
CD
TUNER
PHONO
VIDEO
DOLBY
BASS
KEY
AN0
AN1
CE
CLK
DATA
GND
+5V UNSWITCH
+12V SWITCH
CN551
CN562
+12V
GND
IC551
LC7582
FROM PRE
L-CH
GND
R-CH
CN555
VR551
BALANCE
FROM SP
R-CH
GND
L-CH
SW
CN553
CN554
PHONE
LCD51
1AD4T40A03500
FROM POWER-AMP
CN321
AN1
+B
GND
TO B214
FOW LED
REV LED
FROM POWER-AMP
CN322
A/B
+B
GND
FROM B213
REC LED
EQ SW

SCHEMATIC DIAGRAM (TAPE MECHANISM)


IC001
ICP-N10
Q003
2SB621
CN003
(TO MOTOR)
E
+B
A
B
R006
56K
R005
1.2K
R004
56K
R003
100K
D002
GMA01
Q002
2SA1048
R002
56K
R001
1.2K
Q001
2SB621
R007
6.8K
R008
22K
R009
3.9K
C001
33/10
SVR001
20K
R012
1K
D001
DSF10C
R010
270
D003
MTZ5.1B
PH001
R011
270
PH002
+B(+12V)
MOTOR
SPEED
PLNG
MGND
REEL 1
PACK 1
CR02 1
CN001
(FROM DECK)
S003
S005
SGND
PLAY
STOP
REEL 2
URF
URR
PACK 2
CR02 2
CN002
(FROM DECK)
S002
S001
S007
S008
S004
S006
VOLTAGE (V)
DECK 2 REC
DECK 2 PLAY

COMMON USE
Q002 2SA1048or2SA933
D001 DSF10Cor1SR35
D002 GMA01or1SS133
D003 MTZ5.1BorGZS5.1Y

PH001 002
SPI33534C
S001 002
1AD4S12A02000
S003-008
1AD4S13A01800

S001 STOP SW
S002 PLAY SW
S003 DECK 1 PACK SW
S004 DECK 2 PACK SW
S005 DECK 1 CR02 SW
S006 DECK 2 CR02 SW
S007 DECK 2 UNREC F SW
S008 DECK 2 UNREC R SW

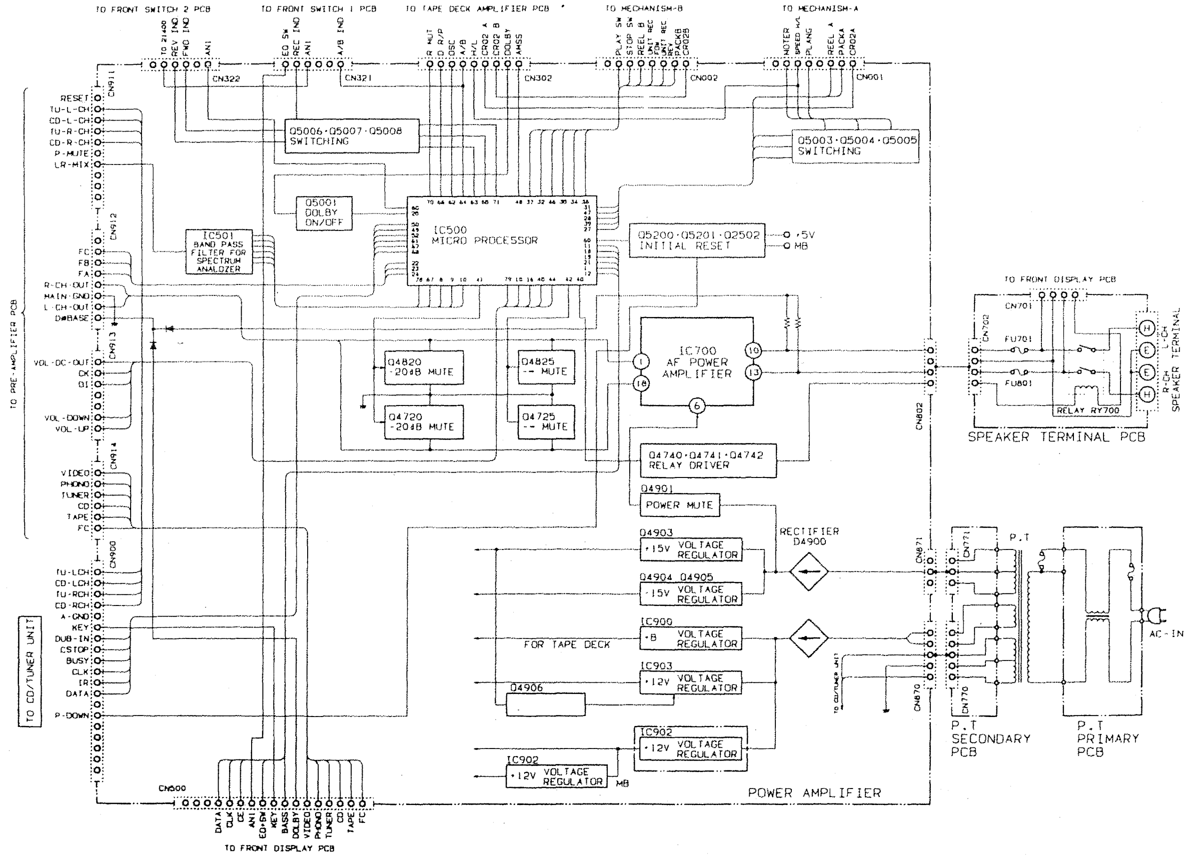
SANYO

SANYO Electric Co., Ltd.
Osaka, Japan

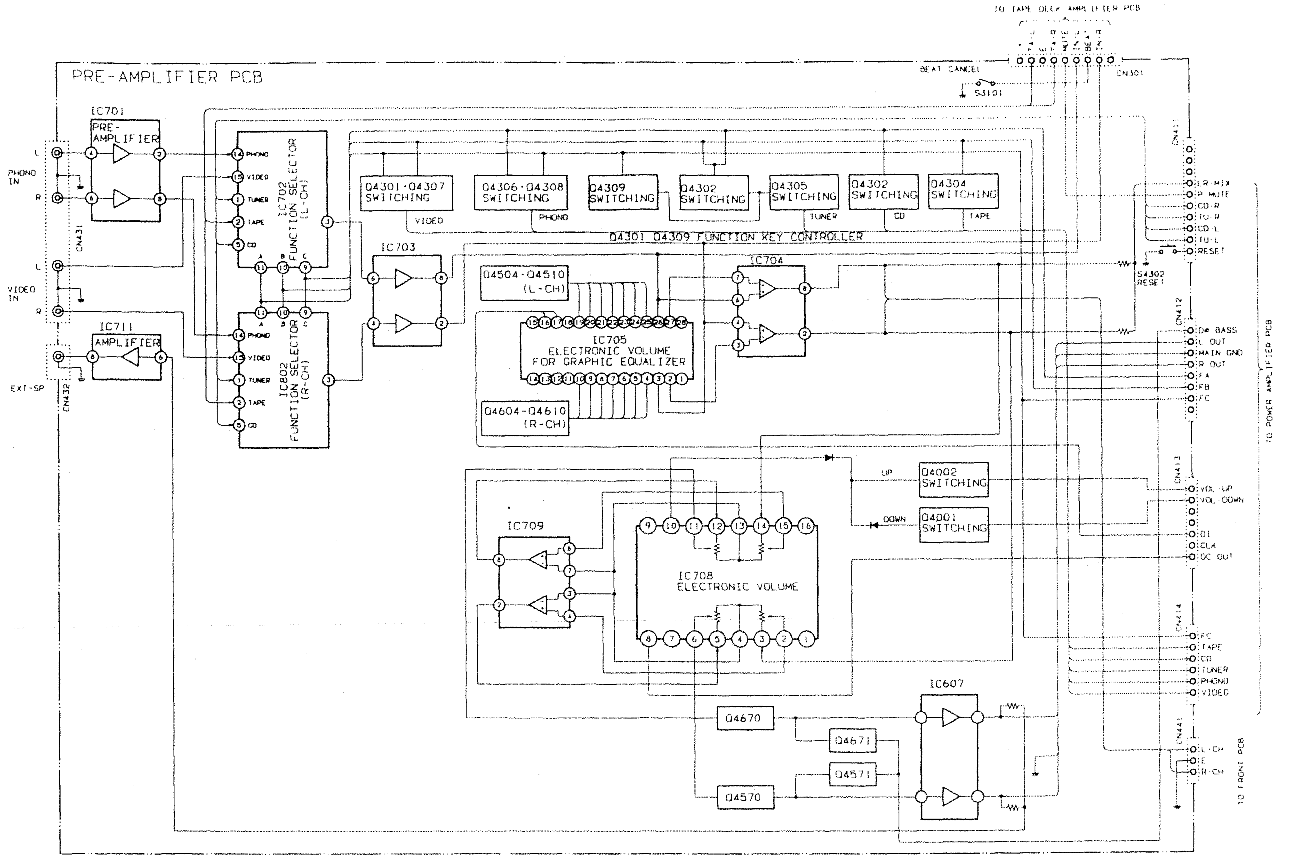
Sep./'92/1200 NS Printed in Japan.

BLOCK DIAGRAM (TAPE DECK AMPLIFIER)

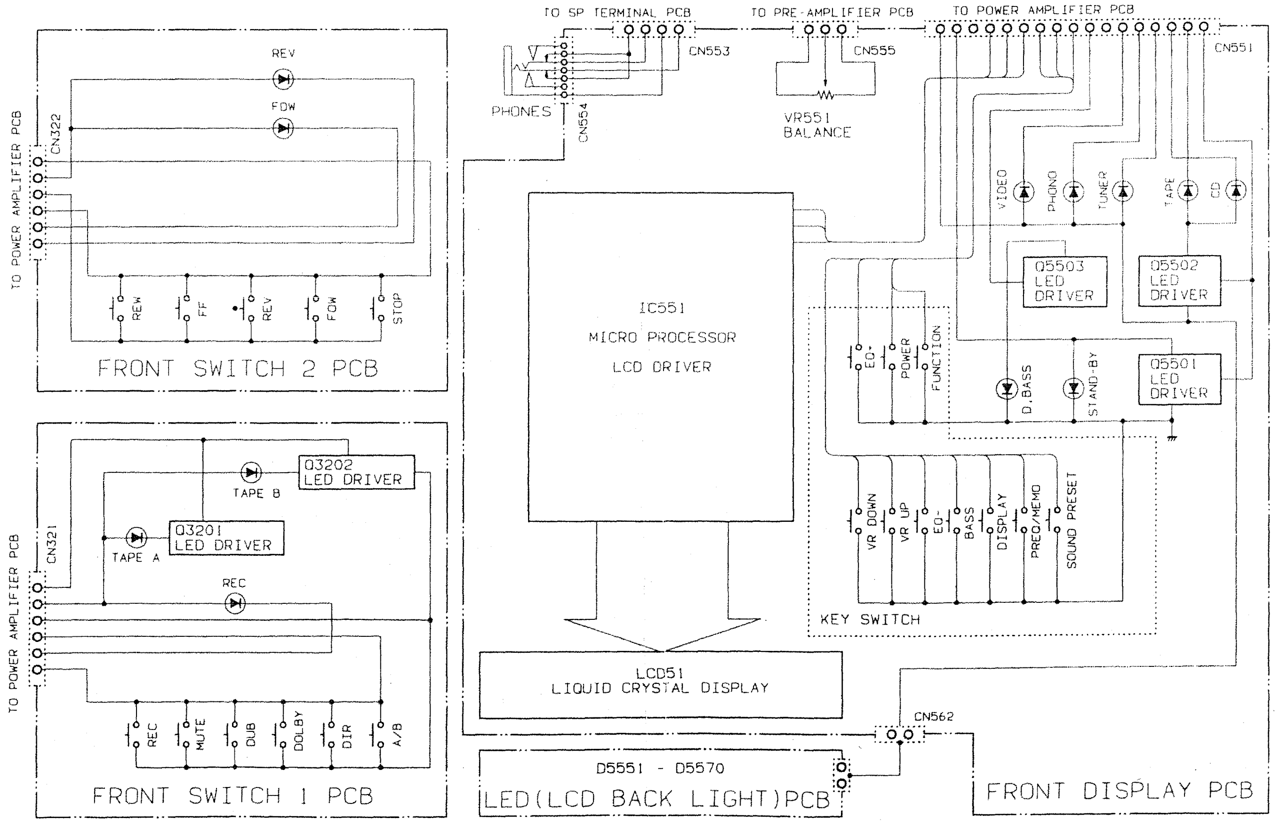
BLOCK DIAGRAM (FRONT)


TO FRONT SWITCH 2 PCB
TO FRONT SWITCH 1 PCB
TO TAPE DECK AMPLIFIER PCB
TO MECHANISM-B
TO MECHANISM-A
CN322
CN321
CN302
CN002
CN001
RESET
TU-L-CH
CD-L-CH
TU-R-CH
CD-R-CH
P-MUTE
LR-MIX
CN411
CN412
FC
FB
FA
R-CH-OUT
MAIN-GND
L CH-OUT
D#BASE
CN413
VOL-DC-OUT
CK
DI
VOL-DOWN
VOL-UP
CN414
VIDEO
PHONO
TUNER
CD
TAPE
FC
TO PRE-AMPLIFIER PCB
CN500
TU-LCH
CD-LCH
TU-RCH
CD-RCH
A-GND
KEY
DUB-IN
CSTOP
BUSY
CLK
DI
DATA
P-DOWN
TO CD/TUNER UNIT
Q5006·Q5007·Q5008 SWITCHING
Q5003·Q5004·Q5005 SWITCHING
Q5001 DOLBY ON/OFF
IC501 BAND PASS FILTER FOR SPECTRUM ANALYZER
IC500 MICRO PROCESSOR
Q5200·Q5201·Q2502 INITIAL RESET
+5V
MB
TO FRONT DISPLAY PCB
CN701
FU701
FU801
RELAY RY700
L-CH
R-CH
SPEAKER TERMINAL
SPEAKER TERMINAL PCB
Q4820 -20dB MUTE
Q4825 -∞ MUTE
Q4720 -20dB MUTE
Q4725 -∞ MUTE
IC700 AF POWER AMPLIFIER
Q4740·Q4741·Q4742 RELAY DRIVER
Q4901 POWER MUTE
Q4903 +15V VOLTAGE REGULATOR
Q4904 Q4905 -15V VOLTAGE REGULATOR
RECTIFIER D4900
IC900 +B VOLTAGE REGULATOR
FOR TAPE DECK
IC903 +12V VOLTAGE REGULATOR
Q4906
IC902 +12V VOLTAGE REGULATOR
IC902 +12V VOLTAGE REGULATOR
MB
CN802
CN871
CN870
P.T
P.T SECONDARY PCB
P.T PRIMARY PCB
AC-IN
POWER AMPLIFIER
CN600
TO FRONT DISPLAY PCB

BLOCK DIAGRAM (PRE-AMPLIFIER)


TO TAPE DECK AMPLIFIER PCB
BEAT CANCEL
S3101
CN301
PRE-AMPLIFIER PCB
IC701 PRE-AMPLIFIER
PHONO IN
L
R
CN431
VIDEO IN
IC711 AMPLIFIER
EXT-SP
CN432
IC702 FUNCTION SELECTOR (L-CH)
IC802 FUNCTION SELECTOR (R-CH)
PHONO
VIDEO
TUNER
TAPE
CD
Q4301·Q4307 SWITCHING
Q4306·Q4308 SWITCHING
Q4309 SWITCHING
Q4302 SWITCHING
Q4305 SWITCHING
Q4302 SWITCHING
Q4304 SWITCHING
VIDEO
PHONO
TUNER
CD
TAPE
Q4301 Q4309 FUNCTION KEY CONTROLLER
IC703
IC704
Q4504·Q4510 (L-CH)
IC705 ELECTRONIC VOLUME FOR GRAPHIC EQUALIZER
Q4604·Q4610 (R-CH)
S4302 RESET
CN411
LR-MIX
P MUTE
CD-R
TU-R
CD-L
TU-L
RESET
CN412
D# BASS
L OUT
MAIN GND
R OUT
FA
FB
FC
TO POWER AMPLIFIER PCB
CN413
VOL UP
VOL DOWN
DI
CLK
DC OUT
UP
DOWN
Q4002 SWITCHING
Q4001 SWITCHING
IC709
IC708 ELECTRONIC VOLUME
CN414
FC
TAPE
CD
TUNER
PHONO
VIDEO
IC607
Q4670
Q4671
Q4571
Q4570
CN441
L-CH
E
R-CH
TO FRONT PCB

BLOCK DIAGRAM (SYSCON & POWER AMPLIFIER)


REV
FOW
CN322
TO POWER AMPLIFIER PCB
REW
FF
REV
FOW
STOP
FRONT SWITCH 2 PCB
TO SP TERMINAL PCB
TO PRE-AMPLIFIER PCB
TO POWER AMPLIFIER PCB
CN553
CN555
CN551
PHONES
CN554
VR551 BALANCE
VIDEO
PHONO
TUNER
TAPE
CD
IC551 MICRO PROCESSOR LCD DRIVER
Q5503 LED DRIVER
Q5502 LED DRIVER
Q5501 LED DRIVER
EQ
POWER
FUNCTION
D.BASS
STAND-BY
VR DOWN
VR UP
EQ-
BASS
DISPLAY
PRED/MEMO
SOUND PRESET
KEY SWITCH
LCD51 LIQUID CRYSTAL DISPLAY
Q3202 LED DRIVER
TAPE B
Q3201 LED DRIVER
TAPE A
REC
CN321
REC
MUTE
DUB
DOLBY
DIR
A/B
FRONT SWITCH 1 PCB
CN562
D5551 - D5570
LED(LCD BACK LIGHT)PCB
FRONT DISPLAY PCB